AMERICAN RAILROADS

FOUR PHASES OF THEIR HISTORY

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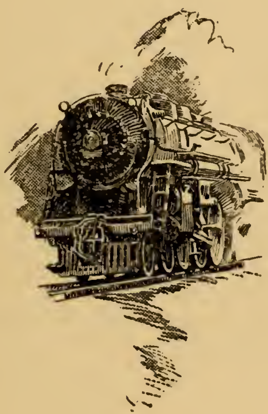

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I

THE RAILROADS AND WALL STREET

IT MAY, I think, be assumed that we are all familiar with the general fact that the financial center of New York is the magnet which attracts and assembles the surplus free capital of the nation. The great insurance companies, the savings banks, the investment houses and the thousands of individual investors seek primarily to embark their funds in the securities for sale in New York. As the capital to provide for railway construction is logically one of the first requisites to a railway undertaking, and as this capital is mainly to be found in our financial center, the primacy of the subject—The Railroads and Wall Street—will be fairly apparent.

In approaching the theme, a prefatory word may be said as to the historical rôle of the railroad in the development of our modern civilization. Until about a century ago, land carriage was probably the most backwards of the arts. Washington and Napoleon were compelled to use roads and vehicles which were essentially the same as those used by Hannibal and Julius Caesar. Other arts such as architecture, printing, the fictile art, the invention of firearms, the textile

industries, mining and metallurgy, even the mariner's compass and the science of sea navigation, had made prodigious advances, but the seemingly simple task of moving persons and goods over the earth's land surface was an outstanding and exceptional instance of arrested achievement. The ordinary highways until Macadam and Telford began their road building work in the early nineteenth century were indescribably inadequate and, for much of the year, wholly impassable.

It would not be far amiss to say that the general surmise that the steam locomotive was the most important device for effecting carriage by land is partly mistaken. What was antecedently necessary to the art of land conveyance was the lessening of the friction of movement. This was essentially accomplished by the use of the railed track laid on a durable foundation. Had the steam locomotive never been invented, the railed track over which the flanged wheel rides would allow five to six pounds of energy exerted in the direction of motion to move a load of two thousand pounds, and at rates of speed otherwise wholly unattainable. The addition of giant motor mechanisms such as the steam or electric locomotive capable of delivering enormous tractive power at the drawbar enormously multiplies our capacity for effecting land carriage. But of the two the railway track is the more essential.

Once the problem of effecting the land conveyance of heavy masses with speed and relative

safety had been compassed, the steel network was prepared to afford its largess to mankind. The regional division of labor, or more accurately, the regional specialization in production which the railroad first rendered possible for areas removed from water carriage, multiplied a hundredfold the national product of industry, and afforded the opportunity of a similar increase in the necessities, conveniences and luxuries available for the average man. Equally, the opportunity created for enlarged travel and intercourse for personal, commercial, scientific and governmental purposes raised to an unknown degree the social interblending which is of the essence of our modern life. It is not far from the mark to opine that railroad transportation marks, as yet, the maximum mastery man has made of his terrestrial environment. If thus far we have not intruded upon what has been called the "peculiarly felonious atmosphere" of Wall Street, it is because some preliminary appraisal of the railroad's contribution to our modern civilization is a necessary background to our story.

It is almost exactly a hundred years ago that the first railroads began their tentative operation in the United States. For the first twenty years, roughly down to 1850, their rôle was so humble and inconspicuous that it may fairly be said they had hardly reached their industrial adolescence. They were wholly subordinate in importance to the waterways, with small expectation of ever

carrying anything beyond a minor part of the nation's traffic. The narrowly local, not to say the parochial outlook of most of the early American railroad promoters, was conspicuous. From Boston by 1835 there radiated three embryonic lines, one to Lowell, one to Worcester, and one to Providence. The first was a matter of local accommodation between the two termini. The second, it was hoped, would bind Worcester trade to Boston and divert it from Providence. The third was intended as a short cut approach to tidewater at Providence by eliminating the voyage around Cape Cod. As late as 1850 the average length of New England railroads was but thirty-six miles. The Charleston and Hamburg Railroad in South Carolina was opened in 1833. It reached from Charleston, South Carolina, to Hamburg, opposite Augusta, on the Savannah River. It was 137 miles in length, and was said to have been at that time the longest railroad in the world. Its aim was to intercept the cotton which theretofore was concentrated on the Georgia side of the river in Augusta and moved by steamer down the river to the port of Savannah. Both the Boston and Providence and the Charleston and Hamburg illustrated two of the moving influences in early railroad location, first, the desire to serve as a mere approach to a waterway; and second, the desire to deflect trade from a rival commercial town. In New England many of the early railroads were short

north and south lines, running down a river valley to Long Island Sound, the Thames to New London, the Connecticut to Saybrook, the Housatonic and Naugatuck to Bridgeport. Their quest was to find a quick path to tidewater where their passengers and lading were transferred to sloop or later to steamer. The shore line of the New Haven, from Boston to New York, often spoken of as the backbone of the system, was not completed until long after southern New England was seamed with unconnected north and south lines to the Sound. It was a case where the ribs grew before the backbone. Not until 1847 were New York and New Haven joined by rail. Even in the interior the early railroads were located so as to reach a lakeport, a canal, a navigable river, or a well constructed highway. Robert Fulton, whose steamers had navigated the Hudson since 1807 and the Ohio and Mississippi since 1811, early remarked of railroads that "Railways of one mile or thereabouts will, no doubt, be frequently necessary, where it may be difficult to find water . . . and its extent, being one mile, can be of little importance to the country." Even as late as 1832, the Pennsylvania Board of Public Works announced that "advocates of railways have greatly overrated their comparative value. It will be found that canals are from two to three and a half times better than railroads for the purposes required of them by Pennsylvania."

By 1850, after two decades of railroad building, the total mileage was somewhere about eight thousand miles of line. The railway map of 1850 shows a series of short rail filaments radiating a few miles inland, mainly from Atlantic or Sound ports, or from the headwaters of river or lake navigation. Albany, Buffalo and Chattanooga typify the inland gateways where the railroad transferred its traffic to the dominant waterways. The longest stretch of connected rail line, and the only one to cross the Appalachian belt was the end-to-end junction of a dozen short separate roads from Buffalo to Albany, with an extension over several distinct links from Albany to Boston. The great thoroughfares by which the trans-Allegheny region was reached were the Erie Canal completed in 1825 and the Federal highway from Cumberland, Maryland, to Wheeling, West Virginia, known as the Cumberland Road. The canal boat and the Conestoga wagon were the main instruments that moved the then tide of immigration into the western country. Within the Western domain, the Ohio, the Mississippi, and their tributaries apparently destined New Orleans to be the great commercial port and metropolis of the Inland Empire.

It seems only fair to make one qualification as to the limited vision of the early railroad promoter. Two of our so-called trunk lines, the Baltimore and Ohio and the Erie, were designed from their inception to connect the Atlantic seaboard

and the central west. Both were slowly building their way over the mountain barrier in 1850, but neither had as yet reached the waters of the Great Lakes or of the Ohio River. The census of that year reports 116,341 persons engaged in sea and river navigation, and some 4,831 so-called "railroad men."

The cost of the lines built in the first two decades must have been well over $250,000,000.[1] We may well pause to inquire how these funds, enormous for their day and generation, had been provided. Mr. Warshaw in his *Story of Wall Street* surmises that "because of the great investment involved" the railroads "were forced to look for capital from outside sources"; and that "from the first, New York banks took a leading part in such financing, as was inevitable from the growing concentration of capital in that city." Personally, I have been unable to verify this finding so far as the first two decades are concerned, although for later periods, it is unquestionably true. It is sometimes said that our early railroads were largely built by foreign, especially English and Dutch capital. I have not been able to substantiate this conclusion, at least up to 1850. The *London Economist* of that year lists the quoted securities of some 140 British railway companies, and more than a score of "Foreign Railways," French, Italian, Dutch and even East Indian.

[1] The U. S. Census of 1860 gives cost of railway construction at the end of 1850 as $296,660,148.

The same journal under the heading of "American Stocks" lists United States bonds, various State bonds and even some American municipal bonds, and tucked away in this list is the single railroad entry—"Camden and Amboy Railroad, 6 per cents, amounting to £225,000." It is doubtless true that a part of the proceeds of some of the State bonds early sold to foreign capitalists was probably used by various States, either directly for railway construction, or as subventions to railway corporations then constructing their lines. But the mania for public improvements at State expense certainly diverted more money into the building of canals and the launching of banks than into railroads. Moreover, after the panic of 1837, when a number of the States defaulted on their bonds, this source of supply of foreign capital was severely curtailed. Furthermore, it is only too apparent that much of the early capital required for railway construction was raised directly by home contribution. What Ringwalt designates as "the most notable achievement" of this kind was the building of the Camden and Amboy Railroad and the Delaware and Raritan Canal by the United Company of New Jersey, with absolutely no financial aid from the State of New Jersey, where "about one-half of the original cost . . . was contributed by stockholders, and the remaining half . . . raised by a loan negotiated in England by Commodore Stockton." This, he tells us, "was the largest sum that had been ad-

vanced by foreign capitalists to any American transportation company that was not backed by State credit." The early New York lines between Albany and Buffalo "were built wholly by private capital." As the early Massachusetts roads were built by stock sales practically without bonds, and by governmental contributions, I surmise that they also were chiefly financed by the savings of the localities they traversed. Charles Francis Adams, Jr., records that at the opening of the Boston and Worcester Railroad in 1837, Mr. Henry Williams of Boston, a director and secretary of the company, alluded "with much feeling to the difficulties with which the enterprise had to contend at the outset without the aid of capitalists, who hesitated to embark in so perilous an adventure. . . . The work was commenced and has been completed," said Mr. Williams, "by the middling class of the community."[2]

"The Pennsylvania Railroad was commenced with the hope that *bona fide* stock subscriptions would furnish all the capital needed to complete the main line. . . . At the outset of this enterprise few persons expected it to be a remunerative undertaking. The City of Philadelphia was canvassed by committees, going from house to house and block to block. . . . Under the pressure of such appeals, many persons subscribed for five shares, par value $50 each, to be paid in a number

[2] In *Railroads: Their Origin and Problems*, p. 67.

of instalments, with the expectation that the entire amount, or $250, would be unremunerative. . . . In a number of instances subscriptions for a single share of stock were also solicited . . . and this species of canvassing was conducted in connection with the formation of a number of other companies."[3]

It was not until well towards the close of the third decade in their history that the railroads attained their majority. They had gained by 1860 over the waterways the primacy in the inland carriage of traffic. In the ten years preceding the Civil War, railroads—in the colorful language of Mr. Daniel Drew—"were spreading over the country like measles in a boarding-school." Without stopping to recount the gigantic spurts in railroad building in subsequent periods, it should be noted that the Civil War itself contributed heavily to the decline of the inland waterways, except on the Great Lakes. Commerce on the Mississippi and its tributaries was largely blocked or impeded by military operations, and when Mr. Lincoln was finally able to announce to the country that "The Father of Waters again flows untroubled to the sea," it bore upon its stream a severely shrunken burden of commerce. Traffic had been notably deflected from a north and south direction to a prevailing east and west direction over the rails, and New Orleans had yielded its

[3] J. L. Ringwalt, *Transportation Systems in the United States*, p. 124.

prospect of commercial supremacy to New York.

It is a curious fact of political geography that, in general, the location of great cities and great commercial marts has been largely due to the interruption of the smooth physical flow of traffic. In somewhat similar fashion as the electric light appears where the flow of the electric current encounters resistance, so the transfer of passengers and lading from land to water conveyance creates a place where the facilities for the temporary hostelry of passengers and for the storage, warehousing, insurance, and marketing of goods are made necessary. The requisite population, ranging from roustabout and stevedore to hotel keeper and banker, nucleates in such localities, and the machinery of markets and banking is erected to afford the services required. It is not, however, where the break in the flow of commerce involves the maximum, but rather the minimum of cost, that the great market arises; and the unsurpassed natural advantages of the Port of New York and its earlier access to the hinterland explain its eventual commercial and financial dominance.

The financial primacy of New York is given "a local habitation and a name" in the phrase Wall Street. It serves as a symbol for the entire congeries of banks, public and private, the United States Sub-Treasury, commission houses, finance companies, investment institutions and organized markets headed by the New York Stock Exchange. Originally, the street itself lay on the

northern confines of the town, and took its name from being bordered by a substantial wooden stockade intended to restrain Indian marauders from making incursions into the quasi-rural portions of the upper city. At the eastern end of the street, where originally the slave market stood, were a number of "coffee houses" which early served as headquarters for auctioneers who from time to time offered at public sale various sorts of property including a very few types of securities, mostly those of the nascent United States Government. As early as 1789 under a buttonwood tree just east of what was then the City Hall, certain independent brokers met daily for trading in securities or for quoting prices. These independent brokers in March 1792 parted company with the auctioneers, and made a written agreement among themselves to exact a uniform commission of one-fourth of one per cent upon all brokerage transactions in the purchase and sale of public stock, with preference to each other in their negotiations. I do not understand why so large a degree of tacit disapproval has sometimes attached to the occupation of the broker. You may remember that Doctor Johnson defined a broker, as a "negociator between two parties who contrives to cheat both." But from what appears of their early history in New York, it would seem that they were intent upon erecting a rather high standard of business ethics. At all events this early compact between the twenty-four indepen-

dent brokers has been called "the direct forerunner of the present New York Stock Exchange." It sufficed, without change until 1817, to govern their business. During the War for Independence, Wall Street had been occupied by the British, and not until the refunding of the Revolutionary debt by Hamilton did operations in securities attract much public notice. After the initial flare-up of speculation in 1789, mainly in government stocks so-called,—in reality they were bonds—the public in general lost interest in the game. The newspapers ceased to carry and print quotations of stock prices, and did not resume until after the War of 1812. Incidentally, it may be observed that one of the inevitable and deplorable aftermaths of war is an intensification of the gambling propensity. At all events after the prior period of public indifference as regards stock dealings, the New York *Commercial Advertiser* of March 10, 1815, "carried the first complete list of stocks ever published."[4] There were but twenty-eight items, all told, some of them inactive, and consisting for the most part of government securities, bank and insurance company stocks, and one industrial issue. But, at best, it was a rudimentary market, devoid of financial control or promotional activity on the part of Wall Street. Not until 1830 was the first railroad stock listed upon the stock exchange. This was the

[4] Warshaw, *op. cit.*, p. 59.

stock of the Mohawk and Hudson, a picayune road, seventeen miles long, running between Albany and Schenectady, with inclined planes at both ends up which the trains were pulled by stationary engines. Judge Gillis of Philadelphia has left an interesting account of his journey behind the first steam locomotive over this road in 1831. He recounts how the "train was composed of coach bodies . . . placed upon trucks. The trucks were coupled together with chains leaving from two to three feet slack, and when the locomotive started it took up the slack by jerks, with sufficient force to jerk the passengers who sat on seats across the top of the coaches, out from under their hats, and in stopping, came together with such force as to send them flying from their seats." He describes how the sparks from the engine set fire to and destroyed all umbrellas hoisted to protect the passengers, and how they all landed in a badly singed condition. He concludes by describing other incidents along the route which was thronged by would-be spectators. "Everybody, together with his wife and all his children, came from a distance with all kinds of conveyances, being as ignorant of what was coming as their horses, and drove up to the road as near as they could get, only looking for the best position to get a view of the train. As it approached the horses took fright and wheeled, upsetting buggies, carriages and wagons, and leaving for parts unknown to the passengers if not

to their owners, and it is not positively known if some of them have stopped yet."[5]

But if the Mohawk and Hudson was the first railroad to appear on the stock market, there were others which crept slowly

". . . to that bad eminence."

Hunt's *Merchants' Magazine* of 1840 contains the statistics of six or seven other railroad companies which had become widely known, and whose stocks were dealt in. By 1850 the stage was being set for the financial drama which was eventually to center around railroad securities in Wall Street. The participation of foreign capitalists in the rapid extension of railroad lines in the United States had already been enlisted. New York had not yet become so dominantly the one financial center of the country as it became later. Boston, Philadelphia and Baltimore were also, in large measure, markets for capital which vied with New York in importance. The influx of foreign capital, no less than the assembling of domestic loanable funds, was not as yet confined to Wall Street. Indeed, the flotation of government loans during the Civil War, largely through the Philadelphia house of Jay Cooke & Co., mirrored something of a state of financial parity between the exchanges of the two cities. Certain securities in which Boston and Philadelphia spe-

[5] John Moody, *The Railroad Builders*, pp. 22, 23. The locomotive with a train of primitive coaches stands in the gallery of the Grand Central Terminal in New York.

cialized were not quoted or dealt in extensively on the Big Board at New York. But one thing was everywhere noticeable. It was the securities of railroad companies, almost to the exclusion of everything else but government bonds, which predominated. Between 1850 and 1880, a "deluge of railroad bonds and stocks had already swept into the Stock Exchange" of New York and "until very recently," says the economist of that body, "both the stock and bond markets on the Board have been preeminently markets for railroad securities."[6] The "thin trickle of public utility offerings began in the late 'eighties," and "the last quarter-century has witnessed . . . the growing repute of industrial securities and the waning glory of rails."[7]

The early community of brokers in Wall Street were for many years simply the agents of isolated individual sellers and buyers, and traded but little on their own account. The insidious invasion of sinister methods, however, is attested by an Exchange rule against "wash sales" as early as 1817. By the end of another generation, the standards prevailing in Wall Street had perceptibly declined. The late Professor Lounsbury, after many years spent in college teaching, is credited with the remark that he had discovered that "the human mind has almost infinite capacity

[6] J. Edward Meeker, *The Work of the Stock Exchange,* pp. 33, 34.

[7] *ibid.,* p. 37.

against the intrusion of knowledge." A parallel truth is that felonious ingenuity has almost infinite resources against the restraints of commercial ethics in the stock market. The present painfully elaborate network of rules of the Stock Exchange was slowly matured. The earlier manipulation of prices and the active promotion of "corners" in stocks, as they were repeatedly contrived by financial magnates in the 'sixties, would suffice at present to rule them and their securities off the market. Many of the then prevalent practices would today lodge their perpetrators in the penitentiary.

The low standards of commercial honesty which characterized High Finance in the 'sixties were, in large part, but the reflection of the debased business ethics rampant generally in the Civil War era. Never before or since, has such a motley crew of financial pirates swaggered on the boards of Wall Street. There was the old Commodore, illiterate and boorish, a thorough worldling, a lover of fast horses and Becky Sharps, apparently never worried over the turpitude of buying legislation or corrupting approachable judges, but with an uncanny prescience for treasure-trove, and with the redeeming virtue of improving his physical railroad properties and thereby giving the public good service. Over against him stood the sanctimonious hypocrite, Daniel Drew, the "speculative director" of the Erie, as well as its thieving treasurer. Comic

relief was afforded by "Jubilee Jim" Fisk, blatant, vulgar, exuberant, of rollicking, cynical humor, with the natural endowment of a Barnum coupled with the audacity of a gunman. And overshadowing the last two worthies came Jay Gould, sallow, weazened, unfathomable, secretive and unprincipled. Nor from the participants in the "Big Barbecue," should we omit "Boss" Tweed who graced the earlier Erie directorate,—an honor to which even Al Capone in our day could hardly aspire.

By 1850 two gold streams had converged upon the Atlantic seaboard, one from the mines of California and the other from the strongboxes of European investors, with the result that Wall Street at later times became a speculative maelstrom. From being originally a market where individual investors sought to buy a source of permanent income, or where traders sought to profit individually by trafficking in securities, it became an arena in which the control of corporate enterprises, especially of railroad companies, was sought through the purchase of a sufficient percentage of the voting shares. These contests for control were the precursor of eventual railroad consolidation. The elder Vanderbilt in the early 'sixties began to buy up in the open market the stocks of two streaks of rust, known respectively as the Harlem and the Hudson River. The Harlem ran north from New York City to Chatham. The Hudson paralleled the river between Albany

and New York. Both had been sorry business ventures. He began to purchase Harlem at eight dollars a share. Eventually when he had secured control, he induced a venal board of aldermen to permit him to build a tramway extension of the Harlem down Broadway to the Battery. These gentlemen at the supposed instigation of the subtle Mr. Drew were induced, after having delivered the purchased franchise, to repeal the franchise, not as might be imagined in response to an outraged public sentiment, but with the idea that the fall in the price of Harlem shares would permit them and their mentor, Drew, to cover their extensive short sales and thus line their pockets with an additional largess. They had, however, reckoned without their host. The Commodore not only supported the market in Harlem but aggressively bid up the price to unprecedented heights. When Drew and the city fathers were compelled to settle their contracts, they were sadder but wiser, and incidentally poorer men. If any defense can be urged for a "corner" it is probably a defensive corner such as the one described. A very similar situation resulted when Vanderbilt sought at the hands of the State legislature a franchise to combine the Hudson and the Harlem. Here again the crafty Drew persuaded many of the State Solons to pronounce at first in favor of the franchise, and privately to sell the shares of the Harlem short. When these short contracts had been arranged, Vanderbilt was to

be ditched and the proposed franchise defeated, with the expectation that the market price would be depressed, and the loot gathered in. Again the conspirators were routed by Vanderbilt's driving up the price of the stock and exacting a ruinous indemnity. His thorough revamping of the physical properties and his radical improvement of the service they rendered speedily converted the two roads into steady dividend payers. They were allowed eventually to consolidate, and the New York Central Company, with its Albany-Buffalo line, made overtures to Vanderbilt to take them over under his guardianship. Thus the nucleus of the New York Central system was effected through share control obtained in the Wall Street market.

It would be superfluous to recount the so-called Erie wars. *A Chapter of Erie* and *An Erie Raid* by Charles Francis Adams, Jr., together with the *New York Gold Conspiracy* by his brother, Henry Adams, present vivid contemporary pictures of the events, and have become "classics which cannot be superseded."[8] It makes a dramatic tale of how Drew with his confederates, Gould and Fisk, thwarted Vanderbilt's attempt to add the Erie to his other properties. The Commodore tried to buy control of the Erie in the open Wall Street market. Despite a court injunction Drew succeeded in transforming huge

[8] Frederick C. Hicks in his Introduction to *High Finance in the Sixties.*

blocks of convertible bonds into stock. The brand new shares with the printer's ink hardly dry upon them, were dumped on the market at the precise moment Vanderbilt had all but secured control. The new offerings broke the "corner," and left Vanderbilt holding tens of thousands of Erie shares for which he had paid a fabulous price. Barnard, the corrupt judge (subsequently impeached and removed from office), affected to be affronted by the contempt of his injunction, and issued bench warrants for the arrest of the Erie directorate. These gentlemen with their plunder literally in their hands, fled by ferry in a fog to Jersey City, and there made the Taylor Hotel into "Fort Taylor" where they established the new headquarters of the railroad. New Jersey obliged the corporation by granting it a New Jersey charter. Finally tiring of exile, Drew began to make secret overtures to Vanderbilt, and Gould went brazenly to Albany and bought from the New York legislature a virtual ratification of the enjoined stock issue, an act described by Judge Barnard, of the smirched ermine, as an Act to "legalize counterfeit money." A compromise was arranged with Vanderbilt whereby the Erie exiles were allowed to return with their speculative gains to New York, on condition that the Erie railroad should buy back a great part of Vanderbilt's shares and thus curtail his heavy losses in their purchase. The railroad treasury

was thus gutted for the benefit of the erstwhile combatants. Drew was later forced out of the Erie directorate by Fisk and Gould who were left in possession and control of that unfortunate property, taking on as partners and co-directors Tweed and another member of his Ring. Four years later, the Tweed Ring prosecutions began; Fisk was shot and killed by Edward S. Stokes; and Gould's grip on the property was finally broken. The entire episode reeked with judicial chicanery, legislative corruption, individual treachery, arrant betrayal of corporate trust, and wholesale looting of the Erie treasury.

The battle royal for control of the Erie had a distant echo as late as 1901 when Harriman, then in control of the Union Pacific, encountered Morgan and Hill in a desperate conflict for the control of the Northern Pacific. Here there was no intention on either side of simply cornering the stock. Both parties were intent on securing permanent control. Their rivalry in the open market lured hundreds of outside speculators to sell the stock short. It suddenly appeared that contracts for future delivery exceeded all that could be bought or borrowed. In their scramble to cover, the desperate speculators bid up the price as high as $1000 a share. Simultaneously, all other stocks plunged violently downwards, being thrown upon the market for what they might bring, in order to make good the crumbling margins on stock

exchange loans. As Noyes says:[9] "The crisis itself passed over when the two rival bidders, their hands forced by the disastrous results which their quarrel had invoked, came together and agreed on conditions which would relieve the victims of the corner. . . ."

The ultra-dramatic episodes in the stock market which centered about railroad securities are not particularly serviceable in explaining the changing rôle which Wall Street has played in the world of railroad finance. A better understanding of that rôle may be had by a portrayal of the dominant characteristics of three successive periods, the first covering roughly the first three decades of railroad history, or from 1830 to 1860; the second beginning with the Civil War decade and ending approximately with the century; and the third, comprising the years intervening from 1900 to the present.

The first period was that of the *Individual Traders' Market*. New York had not yet become the predominant financial center of the nation. Railroads began as local and disconnected undertakings. They were built by companies which obtained their capital in the vicinity of each road, and almost wholly from the sale of stocks, with but a minor reliance on bonds. Initially, there was but slight participation by foreign capitalists. Some of the needed capital was obtained from State

[9] Alexander Dana Noyes, *Forty Years of American Finance*, p. 307.

subscriptions or local government aid, just as municipal airports are frequently provided today. The market for railroad securities in New York, or Boston, or Philadelphia, or Baltimore, or Albany was not unlike the market today in hundreds of places where an individual buys or sells his stock holdings in some local concern. There may have been purchasers who were moved by speculative hopes of profit; and towards the close of the period both the rising price level and the greater flow of foreign capital into American markets may have induced sporadic spasms of speculation. On the other hand the earnings and dividends of the railroads in this first period were, in general, only moderate. The prices of railroad shares in the 'fifties as quoted in Hunt's *Merchants Magazine*[10] were more frequently below par than above, even the opulent Camden and Amboy not soaring over 149, with the Pennsylvania, Baltimore and Ohio, and Erie all below par. Moreover, the spreads between the high and low prices do not seem sufficient to have induced any great speculation. In general, therefore, it appears to have been a reasonably quiet, restrained, self-possessed market, largely devoid of corners or manipulation, without dominant leaders of bull or bear faction where the wayfaring investor could venture in with some considerable safety; in short, it was an individual traders' market.

10 Vol. XXXIV, p. 367, April 1856.

The second period of Wall Street participation in railway finance, from 1860 to 1900, may not inaptly be called the *Era of the Railway Magnate.* New York was forging ahead of its rivals, and had taken on a more commanding position as the nation's main money mart. As a conduit for foreign capital seeking investment in American railways, it had grown greatly in magnitude. The ambitious railway magnates with fortunes made in shipping or other ventures, as well as the devious manipulators of market prices on the exchanges, were beginning to use its machinery for the furtherance of schemes of railroad consolidation as well as for mere individual enrichment. The fluctuating fortunes of war during the struggle for the Union injected an instability into all prices which powerfully stimulated all kinds of speculation. The so-called Railway Generals of Wall Street became the acknowledged leaders in the market. They set the pace which the banking interests were content to follow. The fortunes of the small investor in Wall Street depended largely on the policies which the railway kings chose to adopt. After the close of the war, the premature building of railroads particularly west of the Mississippi, the overload of securities thrust upon many railroad properties, the bleeding of certain railway treasuries through such construction companies as the Credit Mobilier, and misleading financial accounts put out to ensnare the public carried into bankruptcy and

receiverships a substantial part of the country's mileage in the panics of 1873 and 1893. That the area of financial ruin was not wider is a tribute to those railroad managements which had successfully withstood the wiles of the wild finance of the period.

It should be remembered that for most of this second period, up to the early 'nineties, the railroad securities were, with the exception of government issues, the chief center of interest in Wall Street. Unless one chose to invest in purely local projects, the railroad was the catch-all for the savings of thrift. As late as 1906, almost eighty-five per cent of the bonds, and fully half of the stocks listed on the New York Stock Exchange, were those of railroad companies. A great part of these securities was owned abroad. Between 1890 and 1896, seventy-five per cent of the stock of the Louisville and Nashville and sixty-five per cent of the Illinois Central were so owned. A bare majority of Pennsylvania shares, over a third of those of the New York Central, and a fifth of the Baltimore and Ohio were similarly held. Presumably, the proportion of our railway bonds held abroad was even greater. It is hardly necessary to say that in our most severe panics, such as 1893, these securities were frequently sent back in vast volume to New York for sale, thereby disorganizing our markets, until during the World War, they finally came home, like Noah's dove, to roam no more. The day of the individual railway mag-

nate to dominate Wall Street was drawing to its close. The Vanderbilts, the Goulds, the Garretts, Jay Cooke, Fisk, Drew, Sidney Dillon, Cyrus W. Field, Henry Villard, and others were typical of the dynasty that was passing away. During their reign there had been a vast expansion of the railway net. With all the attendant evils that blotted more than one project, it is not impossible that the losses entailed were a cheap price socially to have paid for the almost magical growth of our national system of rail transportation.

The third period, that under which we live at present, may be termed the *Era of Banking Control.* The railway magnate, intent on promoting new railroad ventures or consolidating independent lines, the lordly captain of industry, or the ambitious super-speculator, were eventually placed in the capital bread line, and the investment bankers assumed the rôle of handing out the dole.

To understand more fully the change, the transformation in the industrial and financial background must be realized. With the gradual industrialization of the country, many new enterprises had taken on a magnitude rivalling the railroads—a process hastened by the trust movement of the 'nineties which James Truslow Adams has dubbed "The Age of the Dinosaurs." The securities of industrial corporations, public utilities, mining companies, oil companies, and the growing volume of municipal bonds had be-

gun to jostle the earlier exclusive dominance of the railroads as repositories for the nation's investments. The great insurance companies, the investment houses, and the savings banks with their vast holdings of trust funds were no longer to include only railroad bonds in their portfolios.

The outstanding leader in the new régime was the elder Morgan. He had served a rigorous apprenticeship among the railroad kings of the earlier epoch. He had helped to defeat the Erie raid upon the Albany and Susquehanna. He had enabled the Vanderbilts to switch a large part of their colossal fortune into non-railroad channels. He had handled loans for the United States government in 1877 and again in the second Cleveland administration. He had reorganized the bankrupt railroads of the South into the Southern Railway system. He had successfully launched many of the great industrial combinations. He first of the investment bankers wrested control from the railroad hierarchy. He summoned them to attend upon himself and fellow bankers at his own house as early as 1899, and there laid down the principles upon which thereafter they might expect banking support. Morgan's sway was really never endangered except on the occasion when he and Harriman clashed, but eventually Morgan thwarted Harriman's dream of a unified transcontinental railroad empire. How modest the bearing of the railway magnate of today as compared to the magnate of

old is well illustrated in the mild and quiet demeanor of the excellent Messieurs Van Sweringen contrasted with the arrogance of the elder Vanderbilt or the fiery egotism of Mr. Harriman.

Morgan's policy was often ruthless. He not only warned the railroads more than once to stop their mutual cutthroat competition in rates, but evidently intended in other instances to eliminate competition altogether. Constructive as his activities were in the main, there were occasional tragedies, such as the New Haven and the International Mercantile Marine. But his basic idea seems to have been that the central reservoirs of credit, the great investment banking houses, are of right entitled to a controlling voice in the disbursal of capital to railroads as well as to the other great industrial corporations. There was a latent but organic sense of responsibility, not primarily to the public, but to the investors, both foreign and domestic, whose funds had been committed to his hands. Credit was no longer to be the plaything of financial adventurers, to be employed for individual aggrandisement. There was no admixture of anything like benevolence in the new régime. He wanted to float and sell securities that could be digested in investors' strongboxes, and that would not simply swell the floating supply on the market. Like a merchant he prized the goodwill that comes from supplying goods of the first quality, no less than the immediate profit on the turnover.

The régime of banking control is one which frequently irks the practical operators of great industrial concerns. That Wall Street bankers like Morgan & Co., Kuhn, Loeb & Co., or the First National Bank, shall first scrutinize the technical plans of the management on the ground that they involve a capital outlay and thereafter exercise what comes to a suspensive veto on the sales of securities to provide mechanical equipment or physical expansion provokes wide and deep resentment. Henry Ford has successfully defied and escaped the bankers' control. But, in the case of industries of similar magnitude, he is almost alone in this freedom. And to a large extent the new régime to which the railroads are subject, along with other big industries, obtains wide acquiescence from the public of investors. In the field of new railroad issues, banking control is tempered by the Interstate Commerce Commission's jurisdiction in the premises. The purpose of the proposed issue, the form it shall take, the price at which it may be sold even to a banking syndicate, and the brokerage fee that may be paid, are now rested ultimately in a governmental tribunal. But the financial initiative is in the investment bankers of New York. It is not because the final ownership of railroads is found in New York that financial control is lodged there. It is rather because the investment bankers have voluntarily assumed and discharged in

growing measure the more responsible duty of quasi-public trustees that the ultimate owners are content to entrust the function of control to the great financial houses of the Street.

II

THE RAILROADS AND CONGRESS

IN THE previous chapter I tried to give an account of the way in which railroad companies and the individual investors therein had fared in the central mart for capital. In the present chapter I shall outline the changing rôles which Congress has assumed towards the railroad industry; first its favor, next its frown, and finally what is termed its "fostering guardianship." In both cases there has been a perceptible tightening of the reins of power and responsibility, in the one case by the investment bankers, in the other by the national legislature.

In the two most recent developments in the transportation field, in automotive transport and in aerial navigation, Congress has been anything but backward in showing its lively interest. It has all but fallen over itself in profuse aid in the construction of hard-surfaced highways, until, as Will Rogers remarks, it will not be long before we have magnificent concrete avenues leading up to every poorhouse in the country. In commercial aviation mail subsidies supply the financial backbone of industry; great lighthouses in the interior with their myriad-eyed beacons guide the air pilot

at public expense; and more than one municipality has bonded itself to provide airports and terminals for the Daedalian commerce.

There was no comparable Congressional interest shown during the first twenty or thirty years of railway development. The explanation of the almost complete abstention of Congress from railroad affairs until about 1850 is threefold: first, the individual railway enterprises were hardly national in scope or promise; second, they each lay generally within the confines of a single State which often directly, and often through its local governments, granted generous public aid to the infant industry; third, the early political taboo against national appropriations for internal improvements laid a paralyzing hand upon early tendencies toward Congressional extravagance.

Each of the three causes was progressively weakened with the passage of time. The early railroad was destined, though slowly, to outgrow its parochial trammels. The early State mania for acting as almoner to newly founded banks, newly dug canals and newly projected railroads was killed after the panic of 1837 had left many of the States bankrupt and repudiating their public debts. Indeed the railroad was not quite early enough in point of time to get more than a rather moderate slice of the States' financial bounty. Up to 1838 out of $170,000,000 of State indebtedness incurred for public works, the railroads had obtained less than $43,000,000. Banks and canals

were the chief beneficiaries.[1] The disastrous outcome of the early experiment of State aid to new industries was generally registered in the amendment of the organic laws of the several commonwealths, forbidding any future use of State credit for industrial enterprises. Repudiation by the States shut off for years the further influx of foreign capital. Thus, so far as public financial aid was concerned, the States early abandoned the railroad pioneer, and Congress was not yet ready to adopt the orphan.

The gradual disintegration of the political taboo against appropriations of money by Congress for internal improvements is a curious chapter in our political history. It harks back to a day beyond the personal recollection of men now living. For well over two generations the tide has been flowing so hard and fast in favor of Congressional appropriations for anything in the heavens above, or the earth beneath, or the waters under the earth, that we gape with amazement at the earlier view of Thomas Jefferson, and James Madison, and James Monroe, and Andrew Jackson, and John Tyler, and James K. Polk, and Franklin Pierce, that such appropriations were probably without constitutional warrant and certainly without justification in the national interest. And yet fact, proverbially, is stranger than fiction. It was not until 1823, more

[1] Ernest Ludlow Bogart, *Economic History of the United States*, p. 206.

than a generation after the adoption of the Constitution, that the first river and harbor bill involving national expense was passed by Congress. Each of the original thirteen States had its own seaboard. Prior to 1789, each had made its own expenditure for its own harbors. The money was raised by duties on imports and exports. Even upon the adoption of the Constitution there was a permissive continuance of State levies of tonnage duties on imports for harbor improvements, though the assent of Congress thereto was made necessary.[2] When the status of statehood was conferred on the maturing territories,—Vermont, Kentucky, Tennessee, Ohio were the first four—their internal location largely barred them from benefiting from tonnage duties on imports. Denied the recourse to taxing imports for local harbor improvements, it is easy to see how the demand arose for internal improvements, especially ~~for rivers~~ and highways, at national expense. But whether the national government could properly expend money for internal improvements remained down to 1854 at least a disputed political issue. The strict constructionist party denied that such power could be exercised by Congress. Monroe in 1822 vetoed a measure for the preservation of the Cumberland Road on the ground that "Congress do not possess the power, under the Constitution, to pass such a

[2] U.S. Constitution, Sec. X, pars. 2 and 3; article on "Internal Improvements" in *Lalor's Encyclopedia of Political Science.*

law." Jackson vetoed in 1830 the proposed national subscription to the Maysville and Lexington turnpike road, and a long series of presidential vetoes by Jackson, Tyler, Polk and Pierce, the last in 1854, curbed the insistent drive in that direction. On the other hand, when the Whigs, or the liberal construction party, was in power, or occasionally when the prospect of local advantage overcame the constitutional scruples of their opponents, grants for internal improvements were sporadically made by the national government. These were sometimes justified on the ground of military necessity. Thus the Cumberland Road or National Turnpike from Maryland to Ohio was authorized as early as 1806. Various surveys of routes for "such roads and canals" as were deemed important by the President, were made by Congress in 1824 under an "Act to increase the present military establishment of the United States and for other purposes."[3] Army civil engineers were originally assigned to make a route survey for the Baltimore and Ohio, and for the Charleston and Hamburg Railroads. Congress even subscribed to stock in the Chesapeake and Ohio Canal in 1825, and for several other canal projects. It virtuously declined, however, to make such subscriptions to the Baltimore and Ohio or to any other railroad. On the other hand, it gave a *sub rosa* subvention

[3] Lewis Henry Haney: *A Congressional History of Railways in the United States to 1850,* p. 282.

to railways by admitting railway iron free or at reduced rates of tariff duty after 1832 until 1843; it allowed them free right of way over certain public lands; and in 1838 declared all railways to be post roads, and paid the railways for the transportation of the mail carried.

The root of the expansion of the Congressional policy of internal improvements lay in the vast extent of the public domain. It is a curious part of the irony of history that no one contributed more substantially to the eventual spread of the new doctrine of internal improvements than did Thomas Jefferson, albeit all unwittingly. When to the vast acreage of national land east of the Mississippi, the purchase of Louisiana added a continental principality of almost boundless extent west of the river, the public illusion of wealth "beyond the dreams of avarice" was created, and the floodgates of legislative profusion were certain eventually to be opened. Congress seemed to feel like an uneasy trustee of boundless riches. Its prevailing spirit suggests Samuel Johnson's improvised lines "On a young heir's coming of age":

> Loosened from the minor's tether,
> Free to mortgage or to sell,
> Wild as wind, and light as feather,
> Bid the sons of thrift farewell.

At all events, the first definite period of an avowed Congressional attitude to the growing railway system may be said to begin in 1850. The

period from that time until 1871 we may fairly designate the *Era of Congressional Largesses*.

The first legislative step toward the policy of Profusion was decorously veiled in apparent deference to the doctrine of States' rights. There was in this case no out-and-out gift of public lands to railroads as such. The Act of September 20, 1850,[4] is entitled "An Act granting the Right of Way, and making a Grant of Land to the States of Illinois, Mississippi, and Alabama, in Aid of the Construction of a Railroad from Chicago to Mobile." On its face it simply transferred the title of certain public lands owned by the Federal government to the States named. It granted a right of way, two hundred feet wide, through these public lands, together with every alternate section for six miles in width on either side of the expected railroad. The remaining sections along the right of way the Federal government reserved for itself. But the grant to the States was on the explicit condition that the lands so granted should be used for the building of a railroad. Moreover, the Act provided that the government's reserved half of the lands bordering the railroad line should not be sold to private parties for less than double the minimum price theretofore set for the sale of these lands. This double price was two dollars and a half per acre. The Act had been cunningly devised by Senator Stephen A. Douglas.

[4] U.S. Statutes at Large, IX, Chapter LXI.

The grant of land to the States followed earlier precedents, and avoided the objection of a direct Congressional appropriation towards internal improvements. The Act's inclusion of Mississippi and Alabama secured support from the representatives of that section of the South. Illinois and the other western States were ready to support the measure, and after its victorious passage, Douglas on his return to Illinois was accorded an almost idolatrous tribute of popular acclaim. The Act itself did not preclude the States from directly building or even operating the projected road. For a time, Illinois toyed with such a project, but a financially strong eastern group finally won the right to build the property, and succeeded to the title of the lands which had first passed to the States. The company was required, however, to pay to Illinois seven per cent of its gross receipts in perpetuity, in lieu of all other taxes, State or local; and also to afford reduced rates of transportation to the property and the military troops of the United States. By this Act of Congress some three and three-quarter millions of acres of public lands passed indirectly to the railroads, a principality of almost six thousand square miles, or about three-quarters the area of New Jersey.

In this instance it happened that the land grant turned out prosperously for all concerned. In southern Illinois the publicly owned lands had been offered for twenty-five years at a dollar and

a quarter an acre. The purchasers at this price were so few as to be negligible. When the railroad made the region accessible to settlers, the government had little difficulty in disposing of the moiety of the land which it retained, at double the price per acre, at which it had long held the undivided tract unsold. The road itself was well located and economically built, and contributed to the rapid settlement of the territory served and its rapid increase in population. It was a case of beginner's luck.

For twenty years thereafter this policy of land grants by Congress in aid of railroad construction was to continue. It not only continued, but it shook off the early constitutional trammels which, at first, dictated the conveyance of the public land to the States within which the lands lay. After 1850 down to 1871[5] hardly a Congress failed to make grants of the public domain for railroads. Not only were these land grants finally made to the railroad companies direct, without the use of the State governments as a fence; but they were made on a scale that beggared the grant to the Illinois Central. The Northern Pacific in 1864 received, besides a four hundred-foot right of way, a grant of alternate sections twenty miles in extent on either side of its transcontinental line through the territories and ten miles on either side, through the States. This was a

[5] Louis H. Haney, *A Congressional History of Railways in the United States*, p. 14.

total of forty-two million acres or over sixty-five thousand square miles, within one per cent of the total area of all New England. In addition to grants of land areas, direct subvention by bond issues was given to the earlier transcontinental roads.

The causes of this rapid "rake's progress" on the part of Congress from 1850 to 1871 are manifold. Among the more creditable of the contributing factors was the far-sighted idea of consolidating with the older States the newly acquired regions on the Pacific. California had been admitted as a State in 1850. Long before its admission or even before the gold discoveries had induced the rush of argonauts to California, some doubling Cape Horn and others transhipping at the Isthmus,[6] the idea of a railroad to the Pacific had been widely disseminated. Asa Whitney, a New York merchant, had persistently advocated the project in season and out of season. In 1845 he first memorialized Congress, proposing a railway from Lake Michigan to the mouth of the Columbia River. Whitney was no mere dreamer. He had been in China in 1842, and was familiar with the possibilities of the Orient trade, which he thought would be so increased by the railroad as to "increase our own far beyond the power of the imagination to estimate." He first proposed

[6] *ibid.*, p. 145. In 1850 there was no railway across the land strip between North and South America. The transit was commonly made via the Nicaragua route.

that the government should build and operate the road. Finding that this project encountered insuperable obstacles in Congress, he proposed in two subsequent memorials that he personally undertake the work on being provided with a grant of territory sixty miles in width along the line of the road. The land so granted was to be sold progressively to provide for the cost of construction. Whitney was not the first to urge the building of a railroad to the Pacific, though he seems to have been the most persistent and successful of its early advocates in enlisting widespread popular interest and support. His was the tragic fate that has befallen a multitude of far-seeing promoters of feasible enterprises. Their work is "voiceless to those who have only listened to the trumpet of fame"; yet their successors, in their triumph, may fittingly be reminded that "other men labored and ye are entered into their labors." So thoroughly was public opinion convinced of the necessity of the transcontinental plan that in 1853 Congress appropriated $150,000 for the survey of a route to the Pacific.

At this stage, there entered another factor which was to delay for over a decade the inception of actual construction. Sectional jealousy between the North and the South had already begun to run high. In February 1855, Jefferson Davis, then Secretary of War, reported to Congress that of five possible routes that had been examined, the route along the thirty-second parallel of lati-

tude was to be preferred. This line ran west, approximately from Vicksburg, Mississippi, through Dallas and El Paso, Texas, thence along the southern boundary of the United States to California. It is not surprising that the proposed route did not excite any noticeable enthusiasm among members of Congress from the North or the Northwest. It was not until after the withdrawal of the Southern members from Congress, and during the early part of the Civil War, in 1862, that the route was finally located from an eastern terminus in Nebraska to San Francisco, the main line of the present Union Pacific-Central Pacific. Despite the munificent land grant which the Act of 1862 carried, supplemented by loans of bond subsidies of $48,000 a mile across the two mountain barriers, $32,000 a mile between the Sierras and the Rockies, and $16,000 across the prairies, the inducements had to be heavily augmented, two years later—the land grant was doubled—before private capital could be induced to take the venture. The line was completed in 1869.

The profuse gifts of great sections of the public domain to speed railway construction to the Pacific were soon marred by a host of sordid considerations. The fact that west of the Mississippi the land lay for the most part in territories, not yet admitted as States to the Union, blurred the earlier tenderness for the rights of the States. The Civil War relaxed the strict constructionist

doctrine of constitutional law. The parasite and the profiteer always emerge in a period of armed strife. The earlier and more creditable reasons for the generosity of Congress—the industrial and political annexation of the West and its speedier settlement, the strengthening of the military arm and the betterment of the postal service, even the anticipated expansion of trade with Asia—quickly gave way to a greedy quest for private gain at the government's expense. The Credit Mobilier to which the construction of the Union Pacific was sublet at an outrageous profit still smoulders as a Sodom and Gomorrah in the desert of financial desolation and Congressional venality. The record of its seduction of Congressmen really reads as though members of Congress were sometimes almost naïvely unconscious that they were selling their heritage. Jim Fisk's cynical remark that nothing was lost save honor seems to characterize the situation.

The bulk of these Congressional largesses fell within the period of the Civil War. Four vast transcontinental lines were the main beneficiaries. The last grant, to the Texas and Pacific, was made in 1871. A future President of the United States said, in Congressional debate, that "we ought to put a speedy and effective end to the policy of granting public lands to railway corporations," but supported the measure on the ground that it was dictated by justice to the South. It suggests the toper's resolve to take just

one last drink, before signing the abstinence pledge. After all forfeitures and recoveries of lands, over 130,000,000 acres[7] of the public domain, and advances of $64,000,000 in government bonds subsequently repaid marked the permanent cessions to the carriers in the corrupt era now known historically as the "Big Barbecue."

When today we attempt an appraisal of this Congressional squandering of the national heritage the surprising fact emerges that grantor and grantee were both alike swindled in the bargain. Macaulay's observation that "an acre in Middlesex is worth a principality in Utopia" is very much in point. Vast as was the area ceded, its commercial value at the time was the merest tithe of what both Congress and the railway promoter imagined. The national legislature from the Vice-President down to the many small corruptionists in the House traded that which left them poor indeed, but which failed permanently to enrich the cormorants who fancied they had wrested for themselves a priceless possession. The roads soon found themselves land poor. The hectic over-stimulation of premature construction, far in advance of the demand for traffic, submerged them

[7] The Department of the Interior in December 1931 reported that "Up to date seventy-two recipients of grants have received from the United States 132,000,000 acres of land, which is equivalent to about 200,000 square miles. . . . Although there were eighty-nine such grants but seventeen of them were forfeited because of failure to construct the railroads contemplated."—*U.S. Daily,* December 28, 1931.

eventually in hopeless, sometimes in repeated bankruptcies.[8] And they commonly incurred the lasting ill will of the communities they were built to serve, an ill will which the arrogance of supposed boundless power was destined to fan into a prairie fire.

Between the period of Congressional largesses to railroads and the succeeding period of Congressional restriction of the carriers, there intervenes a brief lyric interlude which marks the organization of the farmers into "The National Grange of the Patrons of Husbandry." One Oliver Hudson Kelley, a clerk in the government service in Washington, in the Agricultural Bureau, organized the Grange as early as 1867. He had noted the "lack of progressive spirit among the agricultural classes,"[9] and undertook the laudable mission of imparting "sweetness and light" to the tillers of the soil. His original idea was wholly non-political. Today, he might have been a promoter of the local Chautauqua idea or a radio salesman to farmers. His idea was to inject the leaven of social cohesion and cultural interest into the isolated farming communities. The lure of a secret order, with the customary paraphernalia of an elaborate ritual, degrees, signs, grips and passwords, was adopted. The founders of

8 "It is not clear that grants of land were of any very great assistance to the railways during the period of construction. Constant demands for funds, failures and receiverships came in spite of them."—Haney, *op. cit.*, p. 153.

9 Solon Justus Buck, *The Granger Movement*, p. 41.

this rural freemasonry in Washington, D.C., comprised "one fruit grower, and six government clerks, equally distributed between the Post Office, Treasury and Agricultural Departments."[10] The early constitution of the order reads almost like a modern book of Ruth. Women were admitted to full membership; and corresponding to the first four degrees for men,—Laborer, Cultivator, Harvester and Husbandmen—were the analogous degrees for women,—Maid, Shepherdess, Gleaner and Matron. There was an articulated framework of the Order, national, State and local, the National Grange at Washington selling organization dispensations as low as fifteen dollars apiece, to subordinate local Granges. The original idea of the movement did not immediately appeal to the farming community until there was added a new objective—the furtherance of the farmer's financial advantage. This was to be sought through cooperative buying of supplies and through cheaper railroad transportation. Despite the fact that the founders had intended to exclude the discussion of politics and religion from the Grange forum, the depression of the farm industry lifted farm grievances to the center of the stage. By 1875 there were almost twenty-two thousand organized local Granges, with a membership of three-quarters of a million. Other farmers' associations similar to the Grange,

[10] Solon Justus Buck, *The Granger Movement*, p. 42.

but with avowed political aims, spread rapidly, and all but against its will, the Grange found itself a formidable power in politics. The successive waves of depression that have swept over the agricultural sections from 1873 to the present day have given an agrarian cast to western politics, mirrored in Grangerism, Greenbackism, Populism, and Bryanism. The first legislative onslaught was on the railroads. Their rates were ruthlessly cut by statute in Iowa, Wisconsin, and Minnesota. The Supreme Court of the United States in *Munn* v. *Illinois* and the other Granger cases decided in 1876 seemed to set the seal of judicial approval upon the Granger program, and the harassed railroad manager, as I heard one express it, had perforce to live for years just one jump ahead of the sheriff and the devil.

While the political cyclone in the West had effectually fluttered the Congressional dovecotes, which reverberated with denunciation of the roads, and with proposed measures for curbing them, the repressive and regulatory activity continued practically within the arena of State activity. In 1886 however a Supreme Court decision[11] repudiated its earlier tolerant attitude that the States, in the absence of Congressional action, might regulate rates applicable to interstate commerce, and declared that Congress alone possessed that power. This holding, together with

[11] *Wabash, St. L. & P. Ry. Co.* v. *Illinois*, 118 U.S. 557.

the contemporaneous report of Senator Cullom's investigating committee, drove Congress to action. In 1887, almost a century after the adoption of the Constitution, the Act to Regulate Commerce first registered the substantive exertion of the national power over interstate commerce by railroad.

It is a curious fact how sedulously and how long the national government had refrained from exercising its unquestioned power to regulate commerce "among the several States."[12] During the long reign of Chief Justice Taney over the Supreme Court bench many sections of the Constitution tended to ossify. Instead of treating the Constitution as an arsenal from which to draw power and weapons in promotion of the general welfare, the habit grew of regarding that great charter as a refrigerator for the preservation of doctrines, some of which it was dangerous to expose to the open air. Even when the Congressional policy of subsidizing internal improvements with direct grants of money or land became habitual, the legalist defenders of such action took shelter behind the powers of Congress to establish post roads, or to raise and support armies. Before the enactment in 1887 of the Act to Regulate Commerce, there were in reality but two instances where Congress actually invoked the commerce power over railroads. One was in

[12] U.S. Constitution, Article I, sec. VIII, par. 3.

1865 when Congress finally wiped out the monopoly conferred by New Jersey on the Camden and Amboy to the exclusive right to transport passengers or merchandise through the State between New York and Philadelphia. The other instance occurred in 1873 when the inhuman methods of shipping livestock were mitigated by the requirement that they should not be confined to the cars for more than twenty-eight hours at a time without being unloaded, watered and rested. A noted case brought testimony from the S.P.C.A. that on one trainload from Chicago to New York fifteen hundred dead animals were found in the cars, though it was also testified by a Chicago man that the animal corpses numbered only 792. But only positive State obstruction to interstate commerce or the barbarous treatment of the dumb animals had induced Congress to resort to its power over commerce among the States.

The prevailing attitude of Congress towards the railroads for full thirty years after the creation of the Interstate Commerce Commission was progressively hostile and restrictive. The Federal government began with a tentative and sketchy assertion of regulatory power in 1887. Thirty years later, in time of war, it boldly took over and for twenty-six months actually operated the railroad properties directly. Whether the change be regarded as the rake's progress or the Pilgrim's Progress, there can be no doubt as to its sweeping

completeness. The progressive circumvallation of the railroad citadel by Congress and the Commission during these years can only be broadly indicated.

The law itself during this long period of legislative disfavor was essentially one-sided. Senator Cullom in introducing his bill in 1886 which was the precursor of the Act passed the following year declared "discrimination in its various forms" to be the "one great evil against which the bill was aimed." The Commission was essentially a tribunal for obtaining redress for the patrons of the roads. To be sure, it was ordained that all individual rates must be just and reasonable, but whether the aggregate revenue from rates should afford a fair return to the companies was left in a twilight zone of silence. The law assumed the carriers would be defendants in all complaints, but presumed little or no innocence upon their part. It was partly this bias or slant of the law as well as a traditional aversion to lodging power in a novel administrative tribunal that accounts for the repeated rebuffs which the Commission in its immaturity suffered at the hands of the courts. It was originally hampered intolerably in obtaining access to necessary testimony and to carriers' records and books of account. Its findings and orders were originally not self-executory, but became effective only upon resort to the courts, for a court decree to give them validity. The courts proceeded to re-try the railroad cases brought be-

fore them, and admitted testimony which had never been presented to the Commission. On this different record the judgment was frequently adverse to the Commission. Even more upsetting were two of the Supreme Court's decisions in 1897, ten years after the Commission began its activity; the first, that the law nowhere explicitly gave the Commission the power to set or fix maximum rates;[13] the second, that the carrier and not the Commission was to judge in the first instance whether the circumstances and conditions warranted the charging of more for the short haul than for the long haul.[14] Mr. Justice Harlan in a dissenting opinion remarked that the Court's action went "far to make that Commission a useless body, for all practical purposes. . . ." Amid these disheartening defeats the Commission still held one commanding position. It could and did give merciless publicity to the evils in the railroad world which it investigated. Before long the tide of discouragement turned. In 1903 came the Elkins Act, penalizing every departure from the published rates as an unlawful rebate. In 1906 the Hepburn Act put teeth into the law, by specifically conferring upon the Commission full power to fix maximum rates for railway service, and making compliance with the Commission's orders mandatory on the railroads unless stayed by a court injunction. The Mann-Elkins Act of

[13] 167 U.S. 479.
[14] 168 U.S. 144.

1910 restored the lost vitality to the long- and short-haul section. Congress had turned with a vengeance to invigorate and uphold its administrative arm, the Commission, which "out of weakness was made strong," and equipped "to put to flight the armies of the aliens."

During this period of Congressional displeasure, the prior unrestricted powers of the railway managements had been invaded in the following important particulars. The fixation of maximum rates, after due hearing and investigation by the Commission, was taken from the management and entrusted to the new tribunal. The maximum hours of service were delimited under heavy penalty in the interest of safety of employees and travellers. The type of safety appliances and braking equipment was prescribed by law. The inspection of locomotives and equipment was entrusted to Federal inspectors. Accidents were investigated by the Federal bureau. The power to suspend newly published tariffs of rates was lodged with the Commission, and the burden of proof to justify increased rates was cast on the railroads. A new and uniform system of keeping railroad accounts was imposed on the railroads, and the policing of the accounts was entrusted to the Commission. In emergencies requiring immediate action that body was invested with almost dictatorial powers over car service, through routes, common use of terminals, and the prescription of

preference or priority for designated classes of traffic. The Clayton Act of 1914 forbade interlocking railroad directorates, and virtually required all large railroad purchases of materials and supplies to be made under a prescribed system of competitive bidding. The Panama Canal Act of 1912 debarred the railroads from the remotest interest in water lines traversing the canal, and divorced them from continuing their interest in all other water lines, unless with express consent of the Commission.

The culmination was reached when the Adamson Act of 1916 fixed for a time the length of the working day and the scale of wages for employees engaged in train operation. By this time the railroad Sampson had been rather effectively shorn by the Congressional Delilah.

It may sound somewhat ironical to describe the post-war Congressional attitude towards the railroads as a fostering guardianship. But the expression is advisedly chosen. It may suggest a construction of the legislation of 1920 which very dimly entered the Congressional consciousness. But it happens to be the interpretation which the Supreme Court has placed upon the legislative avowals of that memorable year. The Transportation Act of 1920 held out the prospect, but not the guarantee, of a fair return to the carriers. This it did to ensure an adequate nationwide system of railroad transportation. To achieve

this great purpose, said the Supreme Court,[15] the law "puts the railroad systems more completely than ever under the fostering guardianship and control of the Commission. . . ." The cynic will probably inquire: *quis custodiet ipsos custodes*—who is to keep guard over these very guardians? But, conceding that the power must ultimately be lodged in somebody's hands, it is only too evident that in this comprehensive revision of the regulatory code, a Congress "slowly wise and meanly just" sought to correct the one-sided character which regulation had previously borne. The threatened breakdown of transport under its war load had convinced a recalcitrant Congress that it must double track the statutory line of regulation. "Theretofore the control which Congress . . . exercised was primarily for the purpose of preventing injustice by unreasonable or discriminatory rates against persons or localities under the old law. . . ."[16] The only benefit which inured to the carriers was the retention of a demonstrably reasonable rate for a particular service. Repeatedly they had fled to the Supreme Court for refuge, when prescribed rates became absolutely confiscatory. In 1920 the letter of the law made a new departure. While the interest of the shipper was guarded as sedulously as before, the law cast upon the Commission the duty of setting

[15] *Dayton-Goose Creek Railway Co.* v. *United States,* 263 U.S. 456.

[16] *Wisconsin Rate Cases,* 257 U.S. 563.

a general level of rates which, under efficient and economical management, would afford the railroads the opportunity of earning a fair return upon railroad property as a whole. Up to date they have never earned this fair return, be the reasons what they may. But Congress at last had explicitly, if tardily, conceded that it had a duty to the railroads, although the obligation has been subjected to a long moratorium.

If the "fostering guardianship" has proved to date to be a rather chill and distant embrace, it must be recalled that the turnabout in the national attitude implied no coddling or special favoritism of the railroad industry. It promised only a rather scant and delayed concession of an equal right to a fairly earned return. Even this newly professed standard of public virtue was rudely impaired subsequently by the reckless passage of the Hoch-Smith resolution which sought to rob railroad Peter to pay farmer Paul.

But the recession of Congress from its earlier antipathy to the carriers was evidenced also by its permissive toleration of the pooling of traffic and the revenues of competing lines, provided the Commission gave assent. Up to this time for thirty-three years the law had made all pooling anathema. Perhaps, most remarkable of all, the new attitude of the law not only ceased to be opposed to consolidation, but actually sought to provide methods whereby all the lines could be consolidated into a limited number of systems.

To be sure, the methods designed to effect consolidation were about as cumbrous and unwieldy as could well be contrived. Moreover, the sanction of consolidation was accorded under vague and grossly mistaken ideas of its probable economies and the resulting effect on railroad rates.

Not even the control which first in 1920 was vested in the Commission over the issue of railroad securities can be taken as offsetting the concessions which the new law embodied. Nor does this power imply any real hampering of railway managements in the field of legitimate finance. The initiative as to proposed issues of securities still lies with the railroad directorates. The proposed issue and sale must, it is true, be subjected to the scrutiny, and receive the prior approval of the Commission. It is not that the Commission is a better judge than the railway directorates, or even as good a judge, as to what issues should be made to finance the companies' capital requirements. But the attendant publicity and complete disclosure required in advance of issue is an effective safeguard against what is called watered stock, and a barrier against the companies' even suggesting the financing of a project of dubious character. No government guaranty attaches to the issues approved by the Commission. The investor must still take his chances of getting a return if he purchases the new bonds or stocks. He has however the reasonable assurance that the company acquires by the new issue additional

property of fairly equivalent cost to the face value of the new securities.

Whether this declared Congressional policy of a fostering guardianship will persist, or suffer "a sad sea change" can only be conjectured. There are growing opportunities of reasonably expanding it. Roadway competition by bus and truck, absolutely free from the rigorous trammels which circumscribe the railroads, must be adequately adjusted, if the railroads are to survive in full vigor. The subsidies granted the inland water carriers cry aloud against the pretense of equal treatment of land and water transportation at present. Whether "that crafty and insidious animal called a statesman or a politician" can be induced to play fairly with the railroads is yet to be discovered. But there is hope in the fact that he has, at least formally, made a gesture of repentance.

III

THE RAILROADS AND THE WHITE HOUSE

NOT the least dramatic episodes in the history of our railroads, and not the least important in recent years, have pivoted upon their contacts with incumbents of the presidential chair. A recital and appraisal of these contacts explain the title of the present chapter—"The Railroads and the White House." There has already been sketched the trend of events in the market for capital which resulted in the displacement of the railroad kings by the investment banker. Similarly the sequence of Congressional railroad policy was traced from indifference to largess, from largess to repression, from repression to a tardy acknowledgment of public responsibility. There is no similar orderly progression in the relationship of the railroads to the chief executive. These have been mainly episodic, dependent on the crisis of the hour, and the character, or even the temperament, of the nation's chief magistrate.

And yet the occasional clashes that have occurred illustrate clearly how the functions of the chief executive have changed in our political order. Lord Bryce in *The American Common-*

wealth, in the chapter on "Presidential Powers and Duties," while admitting that in time of war the President readily becomes a virtual dictator, says that: "In ordinary times the President may be compared to the senior or managing clerk in a large business establishment, whose chief function is to select his subordinates, the policy of the concern being in the hands of the board of directors." Such was the rather prosaic rôle which Lord Bryce in 1888 ascribed to our chief executive "in ordinary times." It hardly needs to be said that since this was written, we have encountered not only some times which were far from ordinary, but at least two Presidents whose conception of the office was hardly that of a "senior or managing clerk," content to leave national policy in the hands of a congressional "board of directors." The listing in the written Constitution of the President's powers and duties,—the war power, the negotiation of treaties, the right of appointment to office, the veto, and the Message to Congress on the state of the union,—suggests very imperfectly the functions that a forceful President is now called upon to essay.

The newer tasks which the President is obliged to assume are in large part those of increased responsibility for shaping legislative policy. Whether or not he makes the frank avowal of being leader of his party, he is inevitably expected to bring upon his political associates in House and Senate strong pressure to sway the

course of legislation. Remote seclusion from Congress becomes less and less feasible. If the executive and Congress in either house are of different political complexion, the result at best is an ineffectual stalemate. But apart altogether from legislation, the pressure of events is forcing upon the President the rôle of national Jack of all Trades, whether the emerging difficulty be an industrial dispute, or a commercial crisis, or a nationwide relief organization, or a collapse of a foreign government's finances. It is up to him to broadcast the public necessity, and to initiate and supervise the attempts at an appropriate remedial policy. The presidential office today is something like a local fire department. It must put in an appearance wherever there is an unmistakable alarm, and often undertake a task which only the outstanding prominence of the official post casts upon the incumbent.

It may not be strictly in keeping with the announced theme of this chapter,—The Railroads and the White House—, to begin with Washington who never lived in the White House and who died a generation before the first railroad appeared on the western continent. But to omit mention of Washington in a sketch of our transportation development would be a serious error. It was he who first clearly recognized the imperative social and political necessity of binding the Atlantic seaboard with the interior, west of the Alleghenies. After the close of the struggle for

independence his chief interest centered for some years upon this project. Among his numerous exploratory journeys, he made in 1783 a tour into central New York to the headwaters of the Mohawk and Susquehanna. He was quick to see that other regions than Virginia offered a highway to the West, and wrote to the Marquis de Chastellux that he "could not help taking a more extensive view of the vast inland navigation of these United States. . . ." and that he would not rest contented till he had "explored the Western country, and traversed those lines [of inland navigation], or a great part of them, which have given bounds to a new empire." Declining the invitation to visit Europe as the guest of France, he set out again on horseback in 1784 to thread the Western wilderness, with a view to determine the most feasible avenues of communication "between the Atlantic States and the Western territory," confident, as he expressed it that "there is no other tie by which they will long form a link in the chain of Federal Union." In 1786 he became president of the Potomac Canal Company, which sought primarily to open the channel of the Potomac to Cumberland, Maryland. It is true that the specific project of linking the headwaters of the Potomac with those of streams flowing westward to the Ohio was never realized. But the canal was the precursor of the railroad, and the successful building of the Erie Canal, completed in 1825, gave the necessary impetus to carrying

the railroads over the Allegheny mountain chain, and consummated the result which Washington had striven for and had foreseen "with an almost uncanny prescience."

From the beginning of the nineteenth century down to 1830 when the construction of railroads began, the internal commerce of the country moved as best it could by highway, by river and canal. During this pre-railroad generation there was no lack of interest in the development of avenues of commerce. There was no disposition to withhold public funds for its encouragement. But the agencies used were ordinarily the State or local governments or the private corporation. The prevailing theory was that it lay wholly beyond the constitutional confines of the national government. Allusion has been made in a previous chapter to the long series of presidential vetoes which frowned upon adventuring into the domain of internal improvements. The first decade of railway construction fell, almost entirely, within what has been called "the reign of Andrew Jackson" (1829-1837). It is curious to note that the first presidential mention of the railway is found in Jackson's Message to Congress of December 6, 1831. The familiar note of the many subsequent optimistic pronouncements appears in the statement that "Science is steadily penetrating the recesses of nature and disclosing her secrets, while the ingenuity of free minds is subjecting the elements to the power of man and

making each new conquest auxiliary to his comfort." In particular, President Jackson remarks that "in the construction of railroads and the application of steam power we have a reasonable prospect that the extreme parts of our country will be so much approximated and those most isolated by the obstacles of nature rendered so accessible as to remove an apprehension sometimes entertained that the great extent of the Union would endanger its permanent existence."

Once again in the reign of Old Hickory did he speak out in characteristic fashion in his Message with respect to the railroad. These new rail arteries of communication were not universally made post roads until 1838. The contracts for mail carriage were let by competitive bidding, and it may well be imagined that a railroad had an ample margin in outbidding wagon carriers, and could yet quote a price which made the Postmaster General pay all the traffic would bear. In his annual message of December 7, 1835, Jackson says: "The reliance which the General Government can place on those roads as a means of carrying on its operations and the principles on which the use of them is to be obtained cannot too soon be considered and settled. Already does the spirit of monopoly begin to exhibit its natural propensities in attempts to exact from the public, for services which it supposes cannot be obtained on other terms, the most extravagant compensation." Accordingly, he proposed that the law fix

the amounts to be offered for the carriage of the mails, and remarks "It is probable that a liberal proposition of that sort would be accepted."

With Jackson's retirement from the Presidency the stature of our chief executives notably declined. Without disparaging the merits of the epigones, Van Buren, the elder Harrison, Tyler, Polk, Taylor, Fillmore, Pierce and Buchanan, it was not until Lincoln's accession that the earlier tradition of the chief magistracy was resumed. Washington, the Adamses, Jefferson, Madison, Monroe and Jackson, by personal force of character or by distinguished attainments, had invested the office with a permanent luster. Their eight successors were lifted by their election to the office into a transitory prominence. They may be appropriately classified, in Bryce's phrase, as senior or managing clerks in a large political establishment. If they contributed little or nothing of importance to the history of our railroads, it ought to be said in mitigation of their passivity, that the public issues of their times were primarily those of slowly gathering sectional strife, and that the railroads themselves were only in their early adolescence. Not until about 1860 did they forge ahead of the water carriers as the premier agency of inland transport.

Lincoln's rôle in transportation was of a more definite character. He had himself been an attorney for the Rock Island Railroad, a circumstance which in his day was not supposed to bar from

elective office. When the first railroad bridge was projected across the Mississippi at Rock Island, the steamboat interests took alarm, and sought to enjoin the new structure. This attempt failed, but within a fortnight after its completion a steamer, the *Effie Alton,* which had passed north through the draw, became unmanageable, was swept down by the current against the bridge, and took fire, destroying the boat and the bridge span as well. The proprietors of the *Effie Alton* sued the railroad, and prevailed in the lower Federal court in having the bridge declared a public nuisance, and in securing an order for the removal of the piers. It was in this memorable litigation in which Lincoln argued for the right and expediency of permitting the railroads to bridge navigable waters. He urged that the Mississippi, that great channel of trade, "extending from where it never freezes to where it never thaws," should not block the travel from East to West which was building up new communities with a rapidity never before seen in the history of the world. "This current of travel," said he, "has its rights as well as that of North and South. If the river had not the advantage in priority and legislation we could enter into free competition with it and we could surpass it."[1] When the case reached the Supreme Court, the lower court was finally reversed, and uninter-

[1] Slason Thompson, *A Short History of American Railways,* pp. 128 *ff.*

rupted transit by rail across the Mississippi was established.

It fell to Lincoln's lot when President to approve on November 4, 1864, the Act providing for the final location and the building of the Union Pacific Railroad. In a very real sense, Lincoln put the capstone on the great project which Washington, with prophetic vision eighty years before, had declared was indispensable, a nation unified by speedy transport and intercommunication between all its parts.

The growing prominence of railroad problems in the national political arena was destined eventually to cast upon the nation's chief executive a new responsibility. The Credit Mobilier exposures in General Grant's day seem, however, to have left no impress upon his messages or other public papers. His own stodgy personal honesty was never questionable, although some of his associates, personal and political, were smirched by the unsavory financial disclosures that marked the period. It befell his successor, President Hayes, to issue more than one proclamation and to employ armed force in repressing the violence which marked the railway strikes in 1877, a precedent which President Cleveland vigorously followed in the Pullman strike in the summer of 1894. Nor should it be forgotten that it was in President Cleveland's first administration that the original Act to Regulate Commerce was passed and approved, and that his admirable

selection of Judge Cooley to preside over the Interstate Commerce Commission gave at the outset to that tribunal a dignity and prestige that augured well for its eventual successful functioning.

It was in Mr. Roosevelt's term of office that the individual influence of the President first emerged as a dominating force in the railroad world. Really effective governmental control of the country's railroads began with his forcing the railroad managements to obey the law as it stood, and with his adroit and successful manœuvering to supplement the law so as to make it an effective agency of control.

In 1903 a measure was passed by Congress called the Elkins Act. This statute sought to put an end to the evil of rebates. Up to this time it had been not uncommon for many railroads to grant special concessions in their charges to favored patrons, and to exact from others the full rates carried in their published tariffs. The new measure made any deviation from the published tariff rates, either on the part of the railroad, its officials or its patrons a criminal offense, carrying a maximum fine of twenty thousand dollars for each offense. It is proper to observe that the Elkins Act was supported by the railroad interests. Many of them had for years tried to paralyze the undercutting of rates by rival carriers, and without success. By 1903 many of them were being held up by producers of heavy tonnage for

rate concessions, on the threat of diverting their shipments over other lines. It is said that Andrew Carnegie once threatened to build his own railroad from Pittsburgh to New York, unless the Pennsylvania lines made him special rates on steel. Mr. Cassatt, president of the Pennsylvania, was not to be browbeaten and refused. For a generation the trunk lines had sought in vain, by gentlemen's agreements, by pools, and by "a community of interests," or common ownership of competing lines, to hold in check the ruinous competition that secret rate concessions forced upon them. Finally, in desperation, and under the menace of the rapidly forming industrial trusts, they sought the protection of a drastic statute. But even after the new law was in force the old habits of the outlaw were too deepseated to be laid aside at once. Not long after the passage of the Act, violations were detected on the Santa Fe, and President Roosevelt wrathfully ordered the Department of Justice to proceed against the offenders. The story of what happened is interesting, and I narrate it as it was told me by the late Edward Chambers, formerly traffic vice-president of the Santa Fe. On learning that a number of his local freight agents had been indicted, he hastened to Washington to obtain an interview with Mr. Roosevelt. For several days he could obtain no appointment, but finally a brief interview was secured. In order that you may visualize the President's visitor, let me say

a word as to Mr. Chambers. He was the typical paladin of Western railroad men, a veritable Hercules for protracted labor—large and bulky in build, with a massive head and neck, broad slabbed cheeks, heavy jaw, quick glancing eyes, with a friendly twinkle in them, his whole make-up at once elephantine and alert. His voice, curiously, instead of being deep or guttural, was uncommonly mild, rather high-pitched, and of a strained, stringy quality, when raised. On entering Mr. Roosevelt's office, the President took the initiative with a snap of his teeth, and said, "You needn't have come to get those Santa Fe indictments quashed. Those men are going to jail." Chambers in his mild tone rejoined that the station freight agents were not to blame: that they had acted under instructions from above: that they none of them got more than $1800 a year, and that their families would become penniless and a burden on the community, if their breadwinners were sent to jail. The President turned on him savagely, and asked if he knew who the men higher up were who had directed the station agents to grant the rebates. "Yes, Mr. President," replied Chambers mildly, "I ordered them to get that traffic, no matter what the rates were. If anybody ought to go to jail, I ought. I can afford to, but those fellows can't." It was evidently a new experience even for Mr. Roosevelt to be told by a high railroad executive, "I am a criminal." The President made a quick

shift of front, and shouted explosively: "You can't expect on the Santa Fe to defy the law when all the other railroads are obeying it." When Mr. Chambers got a chance to reply, he said mildly: "Mr. President, if you will give me a list of the roads that are obeying the law, I'll agree in thirty days to get you written evidence that all, or most of them, are violating it." He finally withdrew from the scene of the presidential fulminations, but the sequel of the story is curious. These indictments were never pressed, but the carriers as the result of the threatened action, had the fear of God, or of the law, so dramatically impressed upon them, that offenses of this secret character virtually ceased. Some persisted in subtle guises, but they have been relatively few in number, and are generally made to wear a virtuous face. I remember telling the foregoing story to Mr. Wilson, when President. He was greatly interested, and when the United States Railroad Administration took over the operation of the railroads, Mr. Chambers became Director of Traffic.

Of even greater significance was Mr. Roosevelt's long and masterly strategy in bringing about the passage of the Hepburn Act in 1906. The detailed history of that enactment has been admirably recorded by Professor Dixon,[2] and the dramatic political and individual sidelights have

[2] "The Interstate Commerce Act as amended in 1906," *Quarterly Journal of Economics,* Vol. 21, November 1906.

more recently been vividly presented by Mr. Mark Sullivan in "Pre-War America," his third volume of *Our Times.*[3]

The truth is that by 1906, virtue had all but gone out of the original system of Federal railway regulation. Mr. Roosevelt in two of his annual Messages had emphasized the necessity of reanimating it. Central to the plan was the endowment of the Commission with the power to prescribe reasonable maximum rates for the future, a power which supposedly had been lodged with that body originally, but which various judicial decisions had virtually eliminated. Of almost equal importance was it that the orders of the Commission should be self-executing, instead of dependent upon an appeal to a court to give them vitality. The recommendations in the President's messages of 1904 and 1905 met with ready response in the House of Representatives which twice by overwhelming majorities endorsed a measure built upon the presidential lines. The Senate was the citadel of the railroad interests. The lines were never before so squarely drawn between the railroad interests intent on remaining free of effective Federal control and the shipping and manufacturing interests of the country at large, insistent upon such control. The weight of the great financial and moneyed institutions was thrown heavily into the railroad's scale. The

[3] Mark Sullivan, *Our Times, The United States, 1900-1925,* Vol. III, "Pre-War America," pp. 226-76.

attitude of the railroad managements was militant, confident of their entrenched position in the United States Senate. Politically the President's party had a strong numerical majority in that body. They were, however, riven widely asunder by their conflicting views upon the measure that had come up from the House. The majority of the President's party were not only strongly reactionary in their tendencies, but were past-masters in parliamentary strategy, and had constituted the more powerful committees of that body so as to kill or control legislation at the source. The President's liberal followers in his own party and the dominant liberal wing of the opposition minority Senators constituted a bare majority of the whole Senate, but cooperation between these two traditionally hostile factions was a task of baffling difficulty.

The most powerful opponents of the President's measure in the Senate were those in his own political household. Chief among them were Senators Aldrich, Elkins, Spooner, Lodge and Foraker. Aldrich was the official leader of his party in the Senate. He was chairman of the Committee on Rules. The Rules of the Senate have been described as "a collection of Silurian epigrams," and no one was more adept in their divination than Senator Aldrich. He was chairman also of the Senate Committee on Finance and wielded more power than any other member of that body. The chairman of the Senate com-

mittee to which the Hepburn bill had been referred was Senator Elkins of West Virginia, himself a railway magnate, and by personal interest opposed to the new measure. It would normally have fallen to his lot to steer the bill through the committee conference and thereafter through the Senate itself. He disavowed all responsibility for the orphan, and the astute Aldrich by resolution devolved the sponsorship for the measure upon the ranking minority member of the committee, Senator Tillman of South Carolina.

There was a sardonic humor in this arrangement, as it was notorious that there had long existed a bitter personal feud between Mr. Roosevelt and Senator Tillman. As Sullivan narrates, Mr. Roosevelt had described Tillman in a magazine article in 1896 as an "embodied retribution on the South for having failed to educate the cracker, the poor white," and had added that Tillman's brother had been "frequently elected to Congress on the issue that he never wore an overcoat or an undershirt." Moreover, when Prince Henry, brother of the Kaiser, made his tour of this country, President Roosevelt had invited to meet him at dinner the Naval Committee of the Senate. Tillman was a member and had accepted the invitation. Taking umbrage at Senator Tillman's conduct in an acute fracas on the floor of the Senate shortly before the dinner date, Mr. Roosevelt had withdrawn the dinner invitation to the Senator. To say that personal relations

between the two were strained was to understate the case. For Aldrich to entrust the President's measure to the President's bitterest enemy was strategy with a vengeance.

Mr. Roosevelt's admirers, in my judgment, have never sufficiently appreciated or exploited his consummate political adroitness, and never was it exercised with more masterly hand than in his manœuvers in the present instance. Tillman declined to hold any personal intercourse with the President, but an intermediary was found in a mutual friend, former Senator Chandler of New Hampshire, who having become a "lame duck" by failing of reelection, was given a sinecure and a salary as member of an obsolescent Claims Commission, Curiously, he and Tillman were personal friends, and Chandler was a supporter of the President's project of railway legislation. For five weeks Chandler served as the underground railroad between Tillman and the White House. Tillman thought he could assure twenty-six Democratic votes for the bill, which with some twenty progressive Republican votes, would carry the measure. To satisfy Tillman that the reviewing power of the Supreme Court over the Commission's actions should be narrowly restricted, the President directed his Attorney General to confer with Tillman and his coadjutor, Senator Bailey of Texas, and apparently a secret agreement was reached between them on this question of the extent of court review. The al-

liance between the White House and Tillman had been kept a profound secret. Senator Tillman took charge of the measure in the Senate where the debate was to continue for two months. Seven weeks after the measure had been reported to the Senate, Mr. Roosevelt summoned the newspaper correspondents, and announced that he was in favor of an amendment offered by one of his liberal party supporters, Senator Allison of Iowa. This amendment was a compromise between the respective advocates of a narrow and a broad provision for judicial review of the Commerce Commission's decisions, but distinctly broader than the review which Tillman declared had been agreed to by Attorney General Moody. At this juncture, Tillman disclosed in the Senate the whole course of the secret negotiations, and insisted that he had been betrayed and abandoned by his high ally. The dramatic explosions in the Senate resulted in a rapidly swollen membership in two antithetical Ananias clubs, but waiving the question of relative veracity, the President had by a stroke rallied to his support the liberal membership of his own party and confronted the minority with an unpalatable amendment which was so much better than nothing they had no choice but to take it rather than nothing at all.

Mr. Roosevelt's legislative strategy was, however, only a part of the persistent and ingeniously contrived pressure he put upon the Senate to pass the bill. He was a past-master in the art

of publicity and propaganda. For weeks and months he managed to keep the agitation upon the front pages of the daily press. His speeches, observations to newspaper correspondents, and special messages emphasized the current investigations into the manipulations of private car lines, the illicit relations of leading trunk lines with coal companies, and the extortions of the great trusts. Cleverly timed prosecutions by the Department of Justice against "undesirable citizens" kept the subject fresh in the ears of the public. In short, such a backfire in the constituencies of the lukewarm or hostile senators, supported by the current magazine disclosures of the "muck-raking" variety such as *Frenzied Finance,* made continued resistance all but impossible. Nothing quite comparable in our political history had occurred since Jackson's merciless onslaughts on the Bank of the United States. Reluctant as were many of the Senators to vote for the measure, the bill was finally passed by an almost unanimous vote.

It was a great personal and a great political triumph for the President. It marked the beginning of really effective Federal control of the railroads. It had the wholesome effect of sobering arrogant corporate managements who had previously acted as though they were "drunk with power and above the law." It was the first memorable instance in the transportation field where the chief executive had forced his imperious will

upon a mutinous party in Congress, and had made the dominant financial interests pass conspicuously under the yoke.

The somewhat radical spirit in public polity which Mr. Roosevelt had unleashed, and whose excesses he alone could bring to heel, was a source of grave embarrassment to his pacific successor, Mr. Taft. The impetus that had been imparted to the progressive movement in politics called for some one who by temperament

Rides in the whirlwind and directs the storm.

However great his public spirit and judicial poise, Mr. Taft was not cast for this rôle, and a malevolent fate simultaneously made the elder LaFollette the anointed leader of the now dominant radical bloc in Congress. The sober verdict of history will be, I think, that LaFollette was incapable of showing warmth or enthusiasm for any triumph of radicalism which did not promote his own political aspirations. He could never wholeheartedly enthuse over liberal measures whose success redounded to the credit of Mr. Roosevelt. When Mr. Wilson became President, he had the same experience with the Senator from Wisconsin. Early in his term he sent for LaFollette, and said to him frankly that they were both alike committed to a somewhat similar program, and besought his advice and cooperation. LaFollette was distant and unresponsive. "He will never look me in the eye," said Mr. Wilson.

LaFollette reached the apogee of his power when he succeeded in the close of Mr. Taft's administration in driving through Congress the act for the valuation of all railroad property, a prodigious task whose cost to date has been over one hundred million dollars, but whose present value is still largely problematical.

Once again in our railroad history a President of the United States became the dominant factor in controlling their destinies. This was Mr. Wilson's work, both in the sombre days that preceded our entrance into the World War, during the period of our participation in the conflict, and in lesser degree after its termination. It will be remembered that the industrial skies were overcast when first he entered upon his office in 1913. Business was in a declining phase, and the threat of trouble with Mexico, and thereafter for a time with Japan, over the Californian policy toward Orientals, depressed enterprise and deadened industrial initiative. Another factor that was but imperfectly sensed at the time was the steady tendency of prices and the money cost of living to rise, in consequence of the increasing additions to the world's monetary stock of gold. This worldwide influence began to be evident by 1900 and had gathered headway in the first decade of the present century. In 1910 the railroads of the country, feeling the pressure of increased costs of material and labor, initiated concerted action for a ten per cent increase in their rates and charges.

The legality of their concerted action was challenged as the unlawful result of a conspiracy in violation of the Sherman Anti-Trust Act of 1890. The Department of Justice in Mr. Taft's administration secured a temporary injunction restraining the western carriers from putting the higher rates into effect. A truce was offered by the railroads. They agreed, in case the legal proceedings were withdrawn, to defer the higher rates until certain railroad measures then pending in Congress should be disposed of. The resulting legislation of 1910 conferred upon the Interstate Commerce Commission the additional power to suspend schedules of rates that might be filed with it, until the same had been investigated by that body. If the Commission upon investigation gave approval, the new schedules became effective. If the Commission condemned the new schedules, the new rates which the schedules carried had to be withdrawn and cancelled. This enlargement of the Commission's power to suspend newly filed rates was the virtual price which the carriers had to pay, to continue their policy of joint action in publishing rates without being chargeable with a transgression of the Sherman Anti-Trust Act. So long as a suspensive veto over jointly proposed prices for railroad service was lodged in a governmental body, there was little point in alleging that the collective railroad policy of rate-fixation could be a conspiracy against interstate trade and commerce.

After the passage of this Act, the railroads acting in concert published their higher rates, and tendered them to the Commission. They were promptly suspended by that body, which after investigation condemned them and ordered their cancellation. The pressure on the railroad companies persisted in view of the rising level of costs. The eastern carriers again sought in the beginning of Mr. Wilson's administration a general five per cent increase in rates. This effort was again repulsed by what was tantamount to a general denial by the Commission in midsummer of 1914. During the long period of suspense before this decision was made public, Mr. Wilson said to me that he would no more think of suggesting to the Commission how the case should be decided than he would think of proffering suggestions to the Supreme Court upon a case under advisement by that body. He felt strongly that the long delay in reaching and publishing a conclusion was regrettable, inasmuch as any decision was better than none, in order to remove the uncertainty which weighed heavily on the business of the country. I never knew until long after the Commission had denied the increase that his personal opinion lay in the other direction.

The almost immediate outbreak of the World War in the summer of 1914 was an additional damper upon business. Not until the swollen demand for munitions and other products by the Allied Powers began to impart a hectic stimulus

to industry, did the industrial tide turn. Prices and the cost of living began to shoot upward. Despite several partial, belated and inadequate increases in rates which the Commission grudgingly had conceded in 1914 and 1915, the railroads were beginning to falter under the strain of the heavy tonnage which war industries threw upon their lines. In 1916 the pent-up dissatisfaction of the train service Brotherhoods with wages and working conditions confronted the railroads with a general strike. The agencies of conference, mediation and conciliation having broken down, President Wilson essayed to bring the parties together. No acceptable basis of agreement could be reached, and a nationwide strike was called for Labor Day, September 4. At this juncture occurred a rather dramatic episode which terminated the presidential conferences with the railroad executives, and which I recite upon the authority of a railroad executive who was present. The President had previously summoned to Washington the railroad presidents of the country and had discussed with them the impasse in negotiations with the Brotherhoods. They promised to consider his suggestions and were to meet him again the following day. When they arrived at the White House the following morning they were shown into one of the long reception rooms which was darkened by the blinds being closely drawn to exclude the almost torrid heat of the sun. Suddenly at one end of the room

a portière was drawn back, disclosing the President standing in bright sunlight, clad in a summer suit of white duck. After the railroad executives' spokesman had explained that they must decline the President's suggested plan of settlement, Mr. Wilson replied. He thanked them for their courteous responding to his telegraphic summons, involving the extreme discomfiture of midsummer travel. He proceeded to remark that it had occurred to him that he could condense all that he had to say in reply by recounting briefly an experience during his teaching days at Princeton. At the close of the term, he said a student called upon him, who had failed in one of Mr. Wilson's courses. The student stated that his mother was in precarious health, and that the shock of learning of his failure at college would very likely be fatal, and that Mr. Wilson would be responsible for her death. Mr. Wilson told the visitor that he denied and disclaimed any such responsibility; that on the contrary the responsibility would rest squarely and exclusively upon the student's failure to master the course. The whole story as told to the executives hardly occupied five minutes in recital, and at its close the President remarked that was all he had to say and would wish them good day. The portière was quickly redrawn at the end of the room, shutting off Mr. Wilson from the sight of the gathering. Hardly realizing that the conference was at an end the somewhat dazed railroad chieftains piled

out on the lawn. One was heard to ask his neighbor what in hell the President could mean. The reply was, "I suppose he means it is up to us to settle the strike."

Nevertheless, they did not settle the strike, and the appointed day was less than a week off, with the country steadily becoming deeper involved in foreign complications. The President called on Congress to settle the dispute by enacting the Adamson Act which fixed an eight-hour day as the basis of pay, instead of the ten-hour day then prevalent. Five days later the measure had passed both houses of Congress and had received the President's signature. Its constitutionality was assailed in the courts where it was finally upheld the following March by a five-to-four vote of the Supreme Court. Within three weeks thereafter we had entered the World War.

Looking back from a vantage ground of fifteen years upon the controversy of 1916 between the railway managements and the train service Brotherhoods, some things are clear which at the time were shrouded in obscurity. The wages of railroad employees in general were not high. In view of the rising prices they were hardly sufficient to constitute a living wage. The Railroad Wage Commission reported in April 1918, that they were quite inadequate. Over half of the total number of employees in December 1917, received less than $75 a month. Four-fifths of them received less than $100 a month. The railroad man-

agers on the other hand had been so repeatedly thwarted in trying to obtain from the Commission increases of rates that they doubtless were quite sincere in their belief that wage increases were impossible, without disaster to the companies. However drastic the settlement which the Adamson Act carried, it was one of those major dictates of imperious national necessity which at the bar of sober future judgment obtains not merely amnesty and oblivion, but the justification that inheres in every essential act of self-preservation.

The taking over by the President of the railroads and their direct operation by the United States Railroad Administration for twenty-six months after January 1, 1918, was simply the exercise of the President's war powers in conformity with an express act of Congress. The history of that experiment of high adventure is too complex even to be outlined in our present recital. We but followed the course which all the great nations had previously found was unescapable. That it contributed enormously to speed the conclusion of the conflict is too patent for denial. It is true that the payment of guaranties to the corporate owners imposed a burden of a billion and a quarter upon the Federal treasury, and indirectly upon the taxpayer. But this is no competent evidence as to the wisdom or unwisdom of the project. There are times when cost must be forgotten, not remembered; and when

the disorganization of the times is taken into account, it seems to me an outstanding marvel that this vast machine was operated with so little confusion, waste and public scandal.

I do not know what were the considerations that impelled Mr. Wilson to resolve on the fairly speedy return of the railroad properties to their corporate owners. There was certainly prevalent among some of his close party associates a strong sentiment for the extension of government control and operation. In some quarters it seemed but a thin disguise to promote eventual government ownership. He must have taken counsel of his own strong personal judgment in the premises. He had already suffered the physical stroke that had impaired his energy but had never beclouded his judgment. His iron decision however had the result that Congress was compelled to make provision for the retransference. The result was the new constitution of the railroad industry in the Transportation Act of 1920. With the passage of that Act the carriers embarked upon a new career, but one whose grooves had been deeply carved by two outstanding occupants of the White House.

IV

THE RAILROADS AND THE PUBLIC

THE three preceding chapters have been retrospective and historical. They have essayed to recount and summarize the changing status of the railroad industry, as determined in the markets of finance, in the halls of legislation, and in two of the presidential orbits. In this chapter there will be attempted a rather more hazardous undertaking, to wit, a forecast of the future relationship of the public and the carriers generally, under what appears to be the approaching reconstitution of the transport industry. The term "transport industry," instead of the term "railroads," is used advisedly, inasmuch as it appears that the future will witness the highway, the internal waterway, and the airway sharing with the railway in the common task of public conveyance.

First of all, there may be reasonably anticipated a progressive relaxation of the tensity of antipathy towards the railroads which has embittered much of our past history. With a substantial disappearance of much of the earlier monopoly power of the railroad, and with the widespread diffusion of automotive transport,

there may emerge a more tolerant attitude towards the elder branch of the transportation family. The auto, the airplane, and the barge line have joined the steam railroad as candidates for public regulation in the public interest, and without stopping here to inquire what coordination between these different forms of transport may be in the offing, it may be well to consider briefly the reasons for the long-ingrained hostility to the railroad and the causes that have softened or dissipated much of that feeling. There was, first of all, in very early railroad history, the opposition that a new form of industrial activity always calls forth from two widely different sources, the vested interests that see their profits threatened, and vulgar envy that feels itself de-classed. No new instrument of transportation ever appeared without provoking the double outcry. In 1672 when stagecoaches were beginning to be used on British highways, a gifted writer named Cressett published a pamphlet entitled "The Grand Concern of England Explained in Several Proposals to Parliament." Among his proposals was "that the multitude of Stage-coaches and caravans may be suppressed." Among the many amusing reasons adduced was the prospective ruin of the saddlers, the tailors and the drapers. He alleged that two or three long journeys on horseback spoiled the riders' clothes and hats—"which done, they were forced to have new very often . . . which

travelling in Coaches doth no way do."[1] The pioneer railroads had similarly to contend against the turnpike owners, the tavern keepers and the canal companies, all of whom saw their incomes threatened.

The second source of hostility, that of vulgar envy, was early voiced in Congressional debates upon the proposal to change the Cumberland Road to a railway. Said one opponent, "Let gentlemen of wealth and aristocrats build railways and travel on them": our constituents "are all democratic republicans," and they want a road on which they can all travel together; "no toll, no monopoly, nothing exclusive,—a real 'people's road'!"[2] In 1906 a future President of the United States said in a public address that "nothing has spread socialistic feeling in this country more than the use of the automobile . . . to the countryman they are a picture of the arrogance of wealth, with all its independence and carelessness."[3] That this wave of antisocial feeling was checked we probably owe to Mr. Henry Ford. With 23,000,000 private cars, or about one for every five persons, the yawning gulf between the exclusive motorist class and the rest of the population was pretty adequately bridged. But, unfortunately for the early railroad, no such palliative of popu-

1 Edwin A. Pratt, *A History of Inland Transport and Communication in England,* pp. 39, 41.

2 Louis Henry Haney, *A Congressional History of Railways in the United States to 1850,* p. 81.

3 Mark Sullivan, *Our Times,* "Pre-War America," p. 431.

lar prejudice was possible. The railroad grew in size. It amalgamated with, or swallowed up other roads. The remoteness of its management and often of its corporate owners allowed little abatement of the earlier antipathy for what was grudgingly admitted to be an economic necessity but what was dimly perceived to be at the same time a natural monopoly. It must be conceded that as the railroad corporations grew in stature, they did not grow in favor either with God or man. They frequently flouted the goodwill of the communities which they were supposed to serve. The arrogance of the local agent often communicated itself to his subordinates in contact with the travelling and shipping public. Mr. Charles Francis Adams, Jr., has gravely recounted an exasperating experience of his own in a western passenger station sometime in the early 'seventies. It appears that Mr. Adams was anxious to have a heavy trunk loaded into the baggage car of a departing train. Displaying his wallet to suggest his readiness to pay for the accommodation, he asked the baggageman if he could find someone who would undertake the task. The employee who was addressed, with what seemed to Mr. Adams a refinement of cruel discourtesy, and as Mr. Adams adds, without removing a toothpick from his mouth, curtly replied with a monosyllabic "No." Mr. Adams concluded that a most potent cause of the railroad's unpopularity was what he called "Bad Manners." I surmise that there is

some substantial ground for his verdict, though it was certainly not necessary to go as far west as Omaha for an illustration of what he might have discovered much nearer home.

The early callousness of railway companies to immigrant passengers was, if anything, worse than to native Americans. This is evidenced by the fact that they would, on occasion, take three to four days to move a passenger trainload of these unhappy people from New York to Chicago, providing *en route* neither heat, water, food or sleeping accommodations for the luckless foreigners. Too often the railway managements appeared—to use a phrase subsequently applied by the late Senator Spooner to the Interstate Commerce Commission—to be "drunk with power and above the law." The Granger uprising, with all its excesses, was largely provoked by the insufferable attitude of the railroad managers. When in addition to their other sins the companies brazenly intruded into politics, resorting to corrupt means, of which the lavish issue of free passes was one of the most conspicuous, if not the most objectionable, they were simply adding fuel to the flames. Nor should there be forgotten the barefaced discrimination in the rates exacted from non-competitive shippers or the rebates accorded to heavy producers of tonnage. On top of it all the frequent disclosure of grave financial misdemeanors, such as the issue and sale of inflated securities, taken in connection with the concentration of

control and ownership in distant, sometimes in foreign, communities heaped on their heads an indiscriminate load of obloquy which many years of atonement could never efface.

More significant for our present purposes, however, is the apparent fact of a fairly thorough and pervasive railroad reformation. They seem to have reformed their questionable practices, not indifferently but altogether. There were, to be sure, some outstanding railway corporations whose policy was always fairly clear of questionable methods. But public opinion did not discriminate. Today, however, appeal may fairly be made to common experience whether, for some years past, their service has not been characterized by increasing safety, comfort and despatch; whether they do not show equal courtesy in their contacts with their patrons to that encountered elsewhere in this work-a-day world. The old shibboleth of "watered stock" has received its quietus largely as the outcome of the costly process of the national valuation of their properties. While the financial structure of certain carriers may still be overshadowed by earlier excesses, no doubt remains that the actual investment in their properties as a whole greatly exceeds the face value of their total securities outstanding in the hands of the public. For over a decade no financial scandal of any magnitude, or any gross rate irregularities can be cited against them. Their ownership instead of being concentrated in a few hands

is more widely dispersed than ever before. No single individual person owns more than a fraction of one per cent of the largest railroad system in the United States. The number of individual owners is in the hundreds of thousands. If we count the investments of mutual savings banks and insurance companies in railroad bonds, the diffusion of popular financial interest in the railroads is widened manyfold.[4] It would be difficult, if not impossible, to show in this period any corrupt intrusion of the railroad into the political field. Their earnings on the basis of their property values have been less than moderate, and have fallen hundreds of millions short of what the law and the regulatory authorities have conceded to be their fair return.

The external rehabilitation of the railroad industry in public opinion and its satisfactory adjustment of public relations have coincided with a corresponding improvement within the industry itself. The external reform is evidenced by the disappearance of public scandal and of public grievance; the internal reform, by widespread economy and efficiency. While in the industrial world the railroad was becoming a pillar

[4] General W. W. Atterbury in his address of January 15, 1932, at Birmingham, Alabama, entitled "Thoughts on Railroads and Business," states that "life insurance funds are invested to the extent of nearly three billions of dollars in railroad securities, and the National Association of Mutual Savings Banks estimates the holdings of those institutions at $1,650,000,000 . . . one-fourth of the total net capitalization of the railroads of the country."

of society, in the bosom of the railroad family it was fast becoming a model of parsimony. While it was gaining respectability abroad, it was growing more thrifty at home.

Despite the positive nature of the internal betterment, it is difficult to portray it with sufficient vividness and emphasis. Perhaps the following picture may serve to indicate the trend. Aside from passenger traffic, the accepted unit of railway accomplishment is the ton of freight carried one mile, or, abbreviated, the ton-mile. If, in 1920, one had chanced to see the average freight train, he would have seen a good-sized locomotive hauling a train of thirty-seven cars, and moving at a speed, counting all stops, of a little over ten miles an hour (10.3 miles). If, ten years later, in 1930, our same observer was fortunate enough to see the average freight train then in service, he would have seen a considerably larger locomotive with a tractive power greater by a quarter than its predecessor of ten years ago, hauling a train, not of thirty-seven but of forty-nine cars, at an average speed, again allowing for all stops, of almost fourteen miles per hour (13.8). To the eye the difference might not seem very significant. The twelve additional cars and the larger engine might arrest a moment's notice, but they would hardly suggest the fact that the tonnage carried per train-hour was almost fifty per cent (more exactly forty-eight per cent) greater than in 1920. The increased performance per train-hour

is doubly significant. It indicates quicker service and prompter delivery for the public. It also indicates reduced cost for the carrier, as the main item of cost, to wit, wages, is on an hour basis. If our observer had examined the lading of the average loaded car, he would have found it greater by ten per cent than it was a decade before. Moreover, if he had inquired into the locomotive fuel consumption per thousand ton-miles, he would discover it had dropped from 197 pounds of coal to 138 pounds. This coal economy alone in the decade has saved over $500,000,000 in the freight service, and a tidy $126,000,000 more in passenger service. If our observer had chosen to follow the unloading of the freight cars, he would have discovered that the loss and damage claims per loaded car were 76 cents in 1930 compared with $2.66 in 1920,—a total saving in the latter year of about $85,000,000 compared with 1920. If he consulted the shippers of 1920 he would have discovered that they demanded for loading about eighty thousand cars daily more than the railroads were able to set in,—a shortage which practically disappeared entirely in 1923, and has never recurred. Finally, further inquiry would disclose that in this period of ten years the freight charges per ton-mile have fallen about seventeen per cent and fares per passenger mile about twelve per cent.

Although this recital may sound somewhat prosaic, the results reached were the conjoint

outcome of millions of new capital invested in locomotives, equipment, and terminals; of endless scrutiny and revision of methods of operation; of persistent campaigns of education particularly in the use of fuel and the loading of cars; and of the loyal cooperation of thousands of employees whose morale continuously improved. The handsome cooperation of the railroad employees in producing the result deserves general recognition. In March 1920, when the railroad properties were turned back for operation to the owning corporations, there were over two million employees on the payroll. In the middle of November last there were less than 1,170,000 (exactly 1,169,207).[5] While this last figure reflects the universal business depression, and consequently exaggerates the reduction of the normal railroad working forces since 1920, it is probably accurate to say that the companies have discovered how to perform more work than they did ten years ago with one-third fewer employees. In the face of this narrowing field for employment the representatives of organized labor on the railroads recently accepted at Chicago a ten per cent reduction in their rates of pay, as their

[5] The Bureau of the Budget reported recently the total of Federal employees, exclusive of legislative and judicial personnel, as 1,023,373. About three-quarters of the total are civil employees. The average pay of the railroad employee in 1930 was almost exactly forty per cent higher than the average of U.S. employees as reported in January 1932.

mass contribution to the restoration of general industrial activity. Of all fine achievements in the transportation world, this result of negotiation with the railway management entitles railroad labor to more than honorable mention, and confirms their title to being the most intelligent and altruistic group of the entire labor world.

If this be deemed too concentrated a meed of praise for the railroad industry, let us try the odious method of comparisons, and recount the parallel achievements of national, State and local governments in the same period. In 1913 the total expenditures of all forms of government in this country were about thirty per cent in excess of total railroad expenses of the same period. In 1928 our governments expended not thirty per cent more than the railroads for operation, but over one hundred and eighty per cent more than the railroads. The National Industrial Conference Board shows in its latest publication that in 1928, the gross governmental expenditure was four and one-third times that of 1913; and if the computation be reduced to terms of the 1913 dollar, was over three times as great as in 1913, local government expenditure being almost four times as great, State expenditure about five times as great, and Federal expenditure six times as great as in the initial year of the period.

If it be imagined that this increase must be traceable to the World War, the answer is that

in the five years, 1923-1928, our total governmental expenditure increased approximately twenty-three per cent. The per capita expenditure in these five years, 1923-1928, grew from $92.01 to $105.04, or 14.3 per cent; and the per capita bonded debt of States and municipalities between 1922 and 1928 increased sixty-two per cent, the actual net bonded debt being greater by seventy-six per cent.[6] "Prior to the war, in 1912, government expenditures amounted to 6.1 per cent of the total income of the American people. After the end of the war, in 1922, this percentage had risen to 11.1 and in 1929 to 12.7. Last year, due to a further rise in expenditures and to a sharp drop in the national income, government expenditures represented 22.2 per cent of the total income."[7]

It is true, of course, that mere increase of governmental expenditure and indebtedness is not conclusive of unjustified outlay. It is necessary to weigh what is obtained by the public for the enlarged appropriation of the taxpayer's money. The current widespread movement in public finance, particularly in city governments, towards a drastic cut in municipal budgets may, however, be fairly assumed to register the public conviction that of the recent expansion of public expenditure bordered on profusion and waste,—

[6] *Cost of Government in the United States* (1928-1929), p. 31.
[7] *Business Conditions Weekly*, March 5, 1932, p. 3.

whereas no like indictment can be brought against the railroad.

If we compare the equitable character of the charges imposed respectively by the railroad and the government, we have an outstanding example of a noteworthy difference. The largest single service which the Federal government purports to furnish for a price is the postal service. What the Post Office Department pays for the railway carriage of mail is fixed by the Interstate Commerce Commission on a basis of affording only a reasonable profit to the railroads over the actual cost of carriage. In his last report Secretary Mellon recites that the Post Office deficit for the last fiscal year was $146,600,000. Some of the main causes are the subsidy paid for the carriage of air-mail, the undercharges on second, third and fourth class mail matter and the loss on the parcel post. Letter postage commonly pays its way with a handsome surplus. If any railroad or express company set its rates for different classes of service as does the Post Office Department, it could probably be convicted before the Interstate Commerce Commission of violating section I of the Act forbidding unjust and unreasonable charges, and certainly would be convicted of violating section III which prohibits a railroad, but not a government department, from making or giving "any undue or unreasonable preference or advantage to . . . any particular description of traffic, in any respect whatsoever."

If we may venture on one more comparison, this time, in the realm of finance, we may compare the railroad as a public servant with the banks. So far as appears there has been during the depression no discontinuance of essential railroad service. Even the relatively few railroad companies in receivership have not incommoded the passenger or shipper by cessation of operation. During 1931 on the contrary there were 2290 bank suspensions in the United States. The aggregate deposits of the suspended banks amounted to one and three-quarter billions of dollars. Whether this sterilization of general purchasing power has crippled individuals and industry is not open to any debate. If the reversion to such antiquated methods as hoarding of currency and occasionally even of barter had taken place in the transportation field, instead of using the freight train we should be making extensive use upon the public highways of the ox-cart.

As a reliable, economical, and efficient public servant the steam railroad has nothing to fear from a searching comparison with the government, Federal, State or local; nor with the great private structure of banking and finance.

To sketch the future of our transportation system a short digression may be permissible, to indicate a somewhat parallel change that has already, in large part, come over another area of social interest. It seems not unlikely that the future transformation of our various agencies of

transport will repeat the pattern of our recent reorganization of the business of popular amusement. A generation ago the theater and the music hall completely dominated the field. More recently the cinema and radio-broadcasting have largely shouldered aside the so-called legitimate drama, and have crowded into the realm of entertainment. They are making a bid for popular favor quite similar to that which the automotive vehicle is making against the steam railroad. Their continuous schedule of performance and their greater accessibility to patrons have outclassed the spoken drama in the size of audiences attracted and in box-office receipts and other analogous revenue. The three reigning amusement agencies, the movie companies, the radio-broadcasting interests and the theater chains might seem to be mutually competitive in their respective appeals to the public. And yet their cooperative relationships are also numerous, as illustrated by the frequent merger of screen pictures and vaudeville sketches in the same show. The theater chains also have close relations with the motion picture industry, and broadcasting is not remote from either. When the Radio City in the heart of our metropolis concentrates within a single central area separate mammoth arenas for the variety theater, for talking motion pictures, for musical comedy, for what is left of legitimate drama, and for symphony concerts, we shall see

a striking coordination of all forms of modern entertainment.[8]

The illustration from the field of organized amusement has perhaps disclosed my intended forecast that eventually we shall see coordination of many of the different instruments of transport cooperating under a common control. But before describing the future of the business of conveyance it is worth while to make an appraisal of the situation as it is today.

It is somewhat startling to realize that our total investment in automotive transport, including both highways and vehicles, exceeds the total investment in the entire railway plant.[9] It is the more surprising in that the competitive motor industry has in twenty-five years overtaken in magnitude of investment a century's growth of the steam railroad. The 1930 registration statistics showed over twenty-three million passenger automobiles, and almost three and a half million

[8] Harry W. Laidler, *Concentration in American Industry.* See particularly Chap. XIII, "Entertainment."

[9] Mr. T. R. Dahl of the National Automobile Chamber of Commerce testified before the U.S. Senate Committee on Interstate Commerce on February 3, 1932, that the "total public investment in highway transportation today is around $25,000,000,000, of which $12,000,000,000 is in equipment and facilities and $12,500,000,000 in highways outside of cities."

General W. W. Atterbury, president of the Pennsylvania Railroad, in the address previously cited estimates that "the highway transportation system, as currently developed, with all its various auxiliaries and accessories, has cost the American people at least as much as the railroads and probably somewhat more—according to the best estimates, twenty-six to twenty-eight billions of dollars."

motor trucks. Taken together with the cost of hard-surfaced highways for their accommodation the total is estimated at from twenty-five to twenty-eight billions.

The earlier monopoly power of the railroad as against other means of transportation is in large part a thing of the past. Particularly is this true of the passenger service. With twenty-three million of passenger automobiles supplemented by road buses, dependence upon the railroad is no longer seriously felt, at least for journeys of ordinary length. Mr. Aishton, the president of the American Railway Association, recently told the railroad executives that "Passenger traffic in 1931 was less than for any year within the last twenty-seven years, amounting to 28,800,000,000 passenger miles. This was a reduction of 53.5 per cent under the record year of 1920."

How effectively the former power of the railroad has been curtailed was illustrated in the nation-wide strike of British railway workers several years ago. By marshalling the motor truck equipment for essential services the apprehension of a complete dislocation of industry proved groundless and the continuity of economic life in city as well as in country districts was maintained. Apparently the railroad has ceased to be anything but a subsidiary agent in the field of passenger carriage. What at the origin was the railroad's main source of revenue, namely passenger traffic, has long since been surpassed by the earn-

ings from freight. Passenger revenue is declining in magnitude both absolutely and relatively. In 1930 it produced about one-seventh of the total rail-line revenue. It is more than questionable whether the railroad passenger traffic as a whole is not operated today at a net loss. The two types of such traffic which promise to remain as permanent sources of net revenue are long-distance, largely Pullman travel, and mass transportation or commutation traffic. Where speed is imperative the airplane will compete for long-distance travel, and the growth of commutation traffic is somewhat restricted by the use of the private automobile. An increasing frequency of excursions by rail is an attempt to win back by the offer of exceptionally low fares some of the patronage which has been normally lost to the railroad. On many branch lines the railroad companies have already discontinued the operation of the ordinary passenger train. They have substituted either the gas-electric motor car, or more frequently the ordinary autobus, operating the latter on the highway and not on the rails at all. Even for journeys of considerable length the autobus furnishes an alternative to rail service. There are said to be not less than fourteen autobus companies operating today between New York and Boston, and a similar situation holds between other cities of larger size. Inasmuch as the length of the ordinary rail journey is somewhere about sixty miles, we may with some confidence antici-

pate a future where the passenger will normally have a rather free choice between using his own car, the motor bus, or the railway coach over such divisions as continue to operate passenger service. It seems highly probable that some of the autobus lines, but not all, will be operated by subsidiary companies owned or controlled in the railroads' interest. A number of American railroads are already operating such bus service, and similar "road transport powers" have been conferred upon the British railways. It is likely that joint fares between bus and rail will be established; and where the buses operate across State lines that they will be subjected to regulation by Federal authority similar to that over interstate railroads. It is thus fairly easy to predict the general outlines of the passenger conveyance of the future, with the single exception of air travel. It is hazardous to assign limits to an agency as yet in its experimental stages. So far as now appears, the operating cost per mile will preclude any very extensive passenger competition with land or water transport, though in 1931 the passenger miles flown were about one-third of one per cent of the passenger miles by railroad.[10] But where speed is the main desideratum, either for passenger travel or for the conveyance of money, valuable papers, or similar express matter, the air-

[10] The Department of Commerce on February 12, 1932, gave the passenger miles flown in 1931 as 104,018,022.

plane has so pronounced a superiority that the locomotive and motor car must be content

. . . not to contend with spirits of heaven.

If this cursory forecast of the future conveyance of persons is reassuring to the public, it is sobering to the railway. They must, it appears, hereafter be content in this field with a minor, even a subordinate rôle. Except for their bus operation on the highway, their activity would be even more restricted. Will a similar fate await them in the movement of freight, or are they securely entrenched in that domain against devastating inroads?

One significant fact in railroad history of the last two decades is the practical cessation of the growth of the railway net. The rail mileage newly constructed per year is small, and is virtually offset by mileage currently abandoned. In linear extension the railway system has attained its growth. Moreover its present transportation dominance is threatened on many sides. By means of over a hundred thousand miles of pipe line, millions of tons of crude petroleum are pumped to the refinery, and this diverts a handsome tonnage from the rails. Vessels operating eastbound through the Panama Canal denude the rails of a vast volume of similar tonnage. Coastal, intercoastal and inland water navigation menace the long distance traffic that once moved by rail.

A threat of even more portentous character is

sometimes thought to lie in the possibility of generating steam power at the mouth of the coal mines, and transmitting the energy by wire to destination. If this could be effected, the enormous volume of coal, about a third of the total tonnage now carried by rail, would dwindle to scanty proportions. Two giant obstacles stand in the way; first, the absence of adequate water supply in the vicinity of the mines to provide for condensation of steam; and second, the enormous capital cost of providing a wire distributing system. Both combined are sufficient to relegate this railway ogre to a somewhat distant future. Very much more to the point is the constant nibbling at rail freight tonnage by the motor truck. The traffic most subject to such diversion is the parcel or merchandise traffic which moves in individual packages, and which makes up what is known as l.c.l. —less than carload—freight. In total quantity it makes up but a small percentage of the total freight traffic; less than three per cent by weight. On the other hand it is traffic which moves under the higher rates and produces nearly ten per cent of the total freight revenue. The selfsame advantage of flexibility which long ago enabled the railroad to surpass the river steamers, now works in favor of the truck in its rivalry with the railroad. Just as rails could at will be extended far inland, as rivers and streams could not, and thus tap traffic near its source, so rubber-tired vehicles can pick up traffic at thousands of points to

which rails can not be extended. Pick-up and delivery service at store door or at the individual shipper's premises eliminates the double cartage service to and from the freight house, and often eliminates the cost of crating or boxing necessary for goods moving by rail. As a result the railroads have seen much of the cream of their l.c.l. traffic lapped up by the hungry trucks. The truck is often more convenient, more speedy, and cheaper. Unless the railroads can match the advantages the truck can legitimately offer, it must forego the traffic. Apparently the railroads propose to make a strenuous effort to retain this traffic, at least in part. They are beginning to operate their own trucking service, and to compete with the independent trucks by making rates from store door or house door to the premises of the consignee. They are experimenting with the use of containers which are demountable truck bodies, five or six of which can be fastened to the floor of a flat car. They are making rates applicable to the containers which like those of the truck vary with the distance of the haul, largely irrespective of the character of the container's contents. In short, they are coordinating rail and truck service, and becoming transportation companies rather than mere railroads. Where the haul is of considerable length, they are running fast freight trains, dropping off cars at a few stations en route, the contents of the dropped car being at once transferred to trucks which fan out in the distribution of the

parcels and packages in a broad belt, sometimes twenty miles on either side of the rail line. The distributing trucks collect return loads and deliver them to the railhead for similar rail movement on the train's return trip. Where the volume of such merchandise is sufficient, the railroad plays off its higher speed and lower ton-mile conveyance cost by rail with considerable effectiveness against the road haulier. It is quite apparent that coordination of rail and truck service is the only means by which the railways can retain the haulage of a substantial part of their parcel freight.

The omnivorous motor truck is not content, however, to annex the railroad's merchandise or package freight. In certain lines it is carrying freight that ordinarily moves by rail in solid carloads. Automobiles, tires, cotton, livestock, vegetables and fruits are being trucked in heavy volume. A daily truck movement of rubber tires is operated from Akron, Ohio, to Atlanta, Georgia. Livestock was moved to stockyards by trucks in 1930 that would have employed over one hundred and fifty thousand livestock cars. In some instances the enterprising truckers carry their own crews of laborers who on their arrival at the fruit fields begin to pick the crop for the return truck load, and who move north from the strawberry fields of the South as the northern berries ripen. Similarly, the truckers' field hands pick the fruits of the Imperial Valley in California,

moving north with the season to the Canadian border.

These striking instances of the successful raiding of railway traffic by truck ought not to blind us to the solid core of carload traffic upon which the truck would seem to have small chance of making any impression. Less than six per cent of the country's total freight traffic is estimated to be carried at present by truck. The products of mines alone make up more than half of the total railroad tonnage, in 1930 over fifty-seven per cent. Coal, coke and iron ore contribute over forty per cent of the total rail tonnage. When it is recalled that these commodities load fifty tons to the car, that one car carries as much as ten heavy trucks, that trains of fifty cars will carry as much as five hundred trucks, with a train crew of five or six operatives as against five hundred truck drivers, truck competition appears in this province more than remote. Around this citadel of unassailable rail traffic, many other heavy loading commodities, such as cereals, flour, lumber, pig iron, may be grouped, although the vulnerable fringes of carload traffic, particularly for the shorter hauls, are numerous, and invite constant forays from the omnipresent truckers. In short, it appears that the wholesale department of land transportation will remain with the railroad: that its aggregate tonnage must indefinitely comprise the greater bulk of freight traffic; and that anything approaching the supersession

of railroads by motor trucks is quite beyond rational anticipation.

A reasonable forecast of the future of freight transportation by land involves, however, an inquiry as to this marginal traffic for which both the railroad and the highway may compete. Conceding that the heavier commodities moving in solid car loads will always constitute a basic core of rail traffic, at least for hauls of any substantial length, longer than mere distributive movements, the questions remain whether the trucks will progressively invade this margin of rail traffic and whether both the independent trucks and those operated by the railroads will permanently compete for its carriage.

Just as we have seen that the private automobile has relegated the railroad to a subordinate rôle as a passenger carrier, so it would seem that for an infinity of distributive movements the motor truck has ensconced itself in a niche from which it can not be dislodged. The outbound movement of parcels and merchandise from central stores or warehouses to the retailer, or even to the individual customer, has come to stay. Similarly the collection and despatch of many farm products, milk and fresh vegetables, for example, or of many products from outlying manufacturing districts, into the great city markets of consumption and sale must be accepted as part and parcel of our secondary, or retail system, of transport. Some of this work, though probably a

lessening share, will fall to the railroads. Instead of way-freight trains peddling our parcels from station to station, the railroads progressively are themselves resorting to the use of trucks.[11] But their less than car load traffic is declining year by year; and the shorter the haul, the more conspicuously is this traffic drifting from the rails to the highway. Even if the railroads should generally introduce the pick-up and delivery system and thus conform their parcel freight service to the present express service, there is no reason to believe that they could ever regain more than a fraction of the total movement. In Canada the railroad companies have long provided for typical merchandise a pick-up and delivery service, but the road hauliers are numerous on Canadian highways between cities of any considerable size such as Montreal and Toronto.

To determine the future boundary between rail and truck carriage of merchandise, several

[11] *The Motor Truck, A Threat and An Opportunity,* an address to the Associated Traffic Clubs, by J. R. Turney, vice-president of the St. Louis Southwestern Lines,—an admirable discussion of the subject from which I have drawn several illustrations. "While the freight train is ideally designed for the distribution of cars, it is a miserable excuse as a distributor of parcels. There is hardly any rail operation which is as extravagant as the distribution of l.c.l. freight by a local or way-freight train. Our average load of l.c.l. is less than five tons in a container whose net capacity is forty tons and whose tare weight is twenty tons; that is, we haul four pounds of car for each pound of l.c.l. freight. . . . A truck can and does perform the distribution service of parcels at way stations far better and cheaper than the train can possibly do it."

elements must therefore be considered, chiefly the volume of such movement and the growing demand for overnight delivery. A road truck can frequently cover a three hundred mile haul in a night's run. If the load offered would fill only one or two trucks, operating let us say at a cost of thirty cents a mile, an additional train whose operating cost per mile is at least ten times as much, is disqualified as a competitor from the start. On the other hand, if a train load of merchandise traffic for delivery over a three hundred mile stretch of rail is available, the road haul cost per ton-mile by rail is less than a fifth of the corresponding cost by truck. If on the rail line cars are dropped off at the various stations, loaded with merchandise for each station only, and their contents transferred to trucks for next morning's delivery, the combination of railroad and truck may say to the fleets of the highway

Here shall thy proud waves be stayed.

But to entrench themselves in this no man's land, this twilight zone, the railroads will have to instal many new mechanical devices. They must provide for the easy transfer of readily demountable containers from the motor truck chassis to the railroad car. They will have to devise a car with some kind of shock-absorber which will allow the discard of the present rigid freight packing requirements, which one railroad executive describes as intended to "protect the shipment

against anything short of an earthquake."[12] They will have to abandon the sacred classification of freight and replace it with a system of charges built on a simple zone or distance basis.

It might be imagined that the railway's struggle for traffic with the automotive vehicle will be aided by legislation's imposing on the motor vehicle a regulatory harness similar to the one in which the railroad is confined. For the autobus something of that sort is possible. It is not unlikely that eventually their fares may be controlled by commissions; their accounts and reports prescribed and policed; their safety appliances prescribed and inspected, the hours of labor for their drivers ordained by statute; and possibly even their issue of capital obligations, stocks and bonds, subjected to a commission's prior approval. But it is rather doubtful whether regulation affecting motor rates will go much beyond this point. The difficulty of extending a similar regimen to the motor truck is that four-fifths of all highway freight is carried by private trucks operated by their individual owners. Of the three and a half millions of motor trucks less than six per cent hold themselves out as common carriers operating over definite routes for hire. Besides the private trucks and the common carrier trucks are the so-called contract trucks

[12] *The Motor Truck,* by J. R. Turney, vice-president, St. Louis Southwestern Lines.

which carry freight over no fixed route, under special agreements with those who employ their services for the trip. There is no great likelihood of any extensive prescription of truck rates by commissions. It is true that the various States will probably seek more accurately to adjust the truck registration fees to the costs the trucks cast on the government in the building and maintenance of highways and bridges capable of sustaining their burden. Even the hours of service they demand of their drivers and the provision of adequate insurance liability in case of loss or damage may be prescribed by law. Their mode of operation on the crowded highway particularly with trailers attached does not always endear them to the automobilist or the general public. But in their rates of charge it is difficult to believe they will be subject to effective regulation other than their mutual competition. The notion that a franchise fee may be exacted because they convert the highway into a place of business would carry the same obligation *pro tanto* in the case of the private truck.

Highway transport is nevertheless properly credited with extending service to thousands of localities which previously were on the outer confines of reasonable means of conveyance. In this respect the extension of highways sharply contrasts with the results of heavy Federal expenditure on canalizing and dredging inland water-

ways such as the Ohio and Mississippi. In no case has this governmental outlay afforded transportation facilities to points not previously served by rail. It mainly furnishes to those who can ship over an inland waterway or over a through rail and water route the advantage of low rates whose cost has been largely borne by the general taxpayer in providing a gratuitous channel for commerce. Even more unfair to the railroad is the direct governmental operation of barge lines on the Warrior and Mississippi Rivers. The barge line corporation's stock is wholly owned by the United States government. It has never paid a dividend. It never has to. It is largely free from the burden of taxes which the railroads encounter. It offers rates below the rail rates, and the rail carriers are compelled to establish through routes and joint rates with these water lines. It is a modern exemplification of the older gods of classical mythology devouring their own children. Where inland waterways can afford cheaper service than rail, as on the Great Lakes, their use is warranted and may be indispensable, but where the floatage is not on a free waterway but on the billows of Federal subsidies, it is not only a menace to the railroads but an unjustifiable burden on the tax-paying public.

The eventual attitude of the public to the railroads will be powerfully affected by the public's release from the feeling of close dependence upon

service and facilities which the railroad alone can offer. Even where the railroad's services continue to be used, as will be necessary in giant industry, the charges will be based not so much on what the traffic will bear as on what the traffic will cost. The preponderance of the railroad in our financial world will undergo a marked relative decline with the more rapid growth of other public utilities and other industries. Annual current investment in electric light and power companies, in gas production and the telephone industry, are alone more than double that in railroads; and their aggregate capital already exceeds that of the railroad companies. The railroad will wane and become only a large star in the economic galaxy, but will be no longer its central sun. The political issue of public ownership will no longer focus only on the railroad industry. Indeed, if I may venture a guess, should the railroads, first of all utilities, become publicly owned and operated, the urge to effect the change is less likely to come from a public that feels it is being exploited, than from investors who would like to exchange their railroad securities for government bonds, and from employees who would prefer the shelter of Uncle Sam's payroll to the lay-offs and wage reductions they are now subject to. To this present date the railroad has given man his maximum dominion over external nature. Its inevitable acceptance of the rank merely of a dependable

and serviceable economic servant, irrespective of public or corporate ownership and control, will mark the dominion of social intelligence over the intricate and often ruthless power of man's most complicated machine.